CIVIL FUNCTIONS, DEPARTMENT OF THE ARMY APPROPRIATIONS, 1952

THURSDAY, JULY 19, 1951

UNITED STATES SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D. C.

The subcommittee met at 10:30 a. m., pursuant to recess, in room F-39, the Capitol, Hon. Kenneth McKellar (chairman) presiding.

Present: Senators McKellar, Robertson, Knowland, Ecton, and Stennis.

CORPS OF ENGINEERS

RIVERS AND HARBORS PROGRAM

STATEMENT OF HON. HERBERT H. LEHMAN, A UNITED STATES SENATOR FROM THE STATE OF NEW YORK

POWER DEVELOPMENT ON THE NIAGARA

Chairman MCKELLAR. The subcommittee will come to order.

Senator Lehman, you have a matter which you wanted to discuss this morning?

Senator LEHMAN. Thank you very much.

Mr. Chairman, I am extremely grateful for this second opportunity to appear before your committee. When I appeared briefly the other day in behalf of certain New York projects, I was thinking largely in terms of introducing the local officials who had come down here to testify on those projects.

AMOUNT REQUESTED

At that time I did not mention one project in which I have a deep and personal interest, and which is not a local proect at all but a national proect. I refer to the recommendation of the President that $2,000,000 be appropriated for a detailed survey of further water power development on the Niagara River under the terms of the Niagara Treaty with Canada. This item is for the benefit of the entire Nation and is primarily a defense matter.

I am the author of a bill for the public development of the power potential in the Niagara, made available to this country under the terms of the recent treaty with Canada. Whatever the Congress does about that bill, it will certainly be necessary to make the survey. Canada is now at work developing its share of the waters. We dare not delay in making the survey so that when legislation is approved for the disposal of this power, the work of construction can proceed.

This is a matter of 12 billion kilowatt-hours of power annually—the largest single water power development on the continent.

It would be a tragic oversight to fail to approve this appropriation, pursuant to a resolution already adopted by the Public Works Committee of the Senate.

Mr. Chairman, I, of course, will be glad to answer, so far as I can, any questions that you may wish to direct to me, but I see that Colonel Potter, Assistant Chief of Engineers for Special Projects, is here Colonel Potter, I am sure, will be able to supplement the remarks I have made. He knows more about the details of the survey than I do since the survey is proposed by the Army engineers and Colonel Potter has worked long and hard on this entire program.

I wish to thank you for your courtesy in permitting me to testify.

Chairman McKellar. We are glad to have that information. We want to hear from Colonel Potter a little later about that. We have delegations here from West Virginia and California, and we are unable to take it up with him right now.

Could I have Mr. Smith notify you when Colonel Potter talks about it? I am very anxious to hear about it myself.

ESTIMATED POWER PRODUCTION

By the way, could you tell us how much power that is capable of producing?

Senator Lehman. In general terms, the total amount of c. f. s. in the Niagara River available for redevelopment for, as I recall it, is about 130,000 of which Canada now is developing already 49,000, the United States developing 32,000. Under the treaty, the entire potential will be divided equally between the United States and Canada. That will give the United States the chance of developing 33,000 c. f. s. in addition to what they are already using.

It will increase the kilowatts from the present 440,000 to about 1,572,000, an increase of more than 1,130,000 kilowatts, and it will develop kilowatt-hours in the amount of about 8 billion in addition to that which has already been developed. That is for the American side only.

Chairman McKellar. I thank you very much.

Senator Lehman. Thank you, sir.

Chairman McKellar. When we take that up, Colonel Potter, will you mention that to Mr. Smith so that he can call Senator Lehman and let him be here at that time?

Colonel Potter. Yes, sir.

MONONGAHELA RIVER, W. VA.

Chairman McKellar. Now we are ready for West Virginia.

STATEMENT OF HON. HARLEY M. KILGORE, A UNITED STATES SENATOR FROM THE STATE OF WEST VIRGINIA

LOCKS AND DAMS ON MONONGAHELA RIVER, W. VA.

Senator Kilgore. Mr. Chairman, I would like, with your permission, to start out by asking Colonel Potter a few questions in the way of laying a foundation. I realize Colonel Potter's position here because what we are asking is not a budget item as yet.

Colonel, in regard to the upper Monongahela Valley, with which you are very familiar, the position is that below lock No. 8, you have a standard 9-foot channel; is that not right?

Colonel POTTER. The same as we have on the rest of the Ohio system.

Senator KILGORE. And you can use your barges full up there. Now, above there, just what is the condition of the river?

Colonel POTTER. The project up above there is a shallower draft, Senator, about 6 feet in normal times, with the exception of our new lock at Morgantown, which will provide 9-foot navigation in that reach.

Senator KILGORE. But in between Morgantown and the highest locks below there, you have one lock which needs some work done; is that not right?

Colonel POTTER. Yes, sir.

Senator KILGORE. Now the coal basin, furnishing coal that can be used for steel production, really begins about at Morgantown, on Scotts Run, and extends to the headwaters of the Monongahela; is that not correct?

Colonel POTTER. That is right, sir.

Senator KILGORE. And the original over-all plan was to make that accessible to navigation clear to the headwaters in order to get about 100 years' additional coal for steel production?

Colonel POTTER. As the Senator knows, the coal fields are opening up farther and farther up the Monongahela River, and practically all of the coal that is used for the entire Pittsburgh steel production comes down from the upper regions of the Monongahela rather than up from the lower regions.

Senator KILGORE. In fact, that goes down to Stewartville, Wheeling, and Weirton, and all the steel mills on the river have to rely on that basin up there for coal for their production?

Colonel POTTER. That is right.

Senator KILGORE. Is that not, in that area, the biggest concentration of steel industry in the United States?

Colonel POTTER. Yes, sir, and it is probably concentrated there, sir, because of the availability of coal and limestone.

Senator KILGORE. And the lower Monongahela, which is served with a 9-foot channel, is pretty well mined out?

Colonel POTTER. That is right, sir, and the available coal is getting farther and farther away from the river.

Senator KILGORE. So you have a rail haul to get it to the river?

Colonel POTTER. Yes, sir.

Senator KILGORE. Whereas above there you can load within a 10-mile radius on either side very easily on the river?

Colonel POTTER. Yes, sir. There are many waterside tipples up there.

Chairman MCKELLAR. Do you have a map of this area? I like to know where these projects are located with relation to the rest of the country.

Colonel POTTER. Here is lock No. 8 on the Monongahela River. Going upstream, the river passes Fairmount, where it divides into the Tygart River and the West Fork which goes up to Clarksburg. Below

here the river flows down to Pittsburgh, which will be in about this position.

Chairman McKellar. The idea is to connect this with Pittsburgh?

Colonel Potter. There is a shallower channel up there in the upper reaches of the river to Fairmount and by alterations at lock No. 8 we can provide a deeper channel up to the Morgantown lock, which we just finished building last year. Above Morgantown there are plans, of course, to replace the existing wall and obsolete locks and dams with two larger locks and dams which will give us 9-foot navigation up the Tygart River for a mile and a half past Fairmount.

ESTIMATED COST OF LOCK NO. 8

Senator Robertson. What would this project cost?

Colonel Potter. The work at lock No. 8, sir, would cost around $3 million. That is for crest gates only: we put crest gates on existing dams. The Hildebrand and Opekiska locks and dams are estimated to cost $13 million and $14 million, respectively, based on current costs. The cost would be changed by whatever change occurs in the cost of construction index between now and the time we build them, sir.

Senator Robertson. Mr. Chairman, I do not want to throw any cold water on worthy projects, and I do not question that this is a worthy one, but I should call attention to the fact that last year the Congress adopted the policy of no new starts, budget estimate or no budget estimate. That was followed again by the House this year and it has been tentatively understood in this committee that this committee is going to do the same thing.

NO BUDGET ESTIMATE

Here is a project for which we do not have a budget estimate.

Chairman McKellar. I would not want the Senator to quote me to that effect. I have an idea that the Senators from the State know something about this matter. I may be wrong about it. I have not led the Senator to believe that I was in favor of no new projects. I do not feel that way.

Senator Robertson. The Senator made a very strong stand for economy.

Chairman McKellar. I would a great deal rather spend the Government's money in building up our own country than in building up portions of Africa, Asia, and the rest of the world. I have every determined views about it, too.

Senator Robertson. If it were not for the fact that Russia threatened to beat our brains out, I would cut the military about $25 billion.

Senator Kilgore. I think if Senator Robertson will allow me to go ahead with the few questions I have for Colonel Potter, he will realize we are not asking for anything like that at all.

At the present time, Colonel, you have no planning money whatsoever on which you can base a firm estimate on those upper locks?

Colonel Potter. That is right.

Senator Kilgore. What you need right now is a very small sum of planning money for Hildebrand and the lock above it is that you can then come in and tell the Budget Bureau and the committee, if it is approved, how much appropriation would be needed annually to complete this navigation proposition; is that right?

Colonel POTTER. If we had that planning money we would be in a much stronger position to give this committee a firm estimate as to the cost of these projects, yes, sir.

COAL SHIPPING IN PITTSBURGH-WHEELING AREA

Senator KILGORE. Now, Colonel, you are in somewhat of a neutral position here. What is the coal shipping problem for the steel mills in what we call the Pittsburgh-Wheeling area—that is, the area around Pittsburgh which is served by this coal and down to Stewartville and Wheeling?

Colonel POTTER. Rail shipment is only used for those plants which do not have mines or cannot get coal from the upper Monongahela or the immediate Pittsburgh area, sir.

Senator KILGORE. The reason for that is that shipment by rail is expensive and raises the price of steel; is that right?

Colonel POTTER. The price of steel would have to go up if all shipments of coal were by rail.

Senator KILGORE. Now, the coal for steel production, the coking coal area, really begins about at Morgantown, at Scotts Run; is that right?

Colonel POTTER. Around that area, sir.

Senator KILGORE. And the coal below there is mined out to a considerable distance back from the river; is that not right?

Colonel POTTER. That is the tendency. It is getting farther and farther away from the river.

RAILROAD CAR SHORTAGE

Senator KILGORE. To illustrate the railroad car shortage, the mines served by rail in that entire northern West Virginia-southern Pennsylvania area, are only getting about 2 days' work a week despite the demand for coal, because of car shortages; is that right?

Colonel POTTER. I have read statements like that. I have read those statements in reputable mining journals.

Senator KILGORE. So that the question of improvement of that valley is primarily an aid to the steel industry in order that they may be able to get their coal out; is that right?

Colonel POTTER. Almost 100 percent.

Senator FERGUSON. Now, to have water-borne coal from the upper Monongahela, which is the Morgantown-Fairmont area, you have to either use shallow draft barges, which are not feasible in the lower system, or you have to have two barges half loaded and send them down to the big lock and then transfer coal from one to the other and send the empty ones back; is that right?

Colonel POTTER. That is right, sir.

Senator KILGORE. That is the only way you can get the coal to Pittsburgh, which is an expensive operation.

Chairman MCKELLAR. May I ask Colonel Potter if the principal product carried is coal or could it not be used to carry other freight?

Colonel POTTER. It can be used for everything, sir, but I would say coal is the major commodity.

Chairman MCKELLAR. Probably 95 percent of it?

Colonel POTTER. Close to that, sir; coal and limestone are the principal items.

Senator KILGORE. Is there anything else, Colonel Potter, you can say to the committee as an illustration of that, without going against instructions from the Budget? Could you tell anything more to the committee about that picture?

DAM NO. 8 DELETED BY BUDGET BUREAU

Colonel POTTER. On dam No. 8, sir, we had asked the Budget for a start on construction but there was no budget for either construction or planning.

PLANNING FUND FOR HILDEBRAND LOCK

On Hildebrand, we had asked for planning and that was not allowed.

Senator KILGORE. How much did you ask for planning up there?

Colonel POTTER. $35,000 for planning, sir.

AMOUNT IN BILL FOR CONSTRUCTION OF LOCK NO. 2

On lock No. 2, which is on the Monongahela River at Pittsburgh, we did recieve $4 million to carry on the construction of the large lock, which with the exception of the Soo, is the most used lock in the United States.

Chairman MCKELLAR. Was that granted by the House?

Colonel POTTER. Yes, sir. We have already built the small lock and are now building the large lock.

Chairman MCKELLAR. The $4 million you asked for was granted by the House and it is in the bill?

Colonel POTTER. Yes, sir; it is in the bill.

Senator KILGORE. And there is nothing in there for planning at Hildebrand, which is necessary before you can give an accurate estimate, and before anything can be done to go before the Budget; is that right?

Colonel POTTER. That is right, sir.

Senator KILGORE. And is there anything there for the lock up above there, the one that will make Fairmount accessible?

NO BUDGET ESTIMATE FOR OPEKISKA LOCK

Colonel POTTER. What is the Opekiska lock, there is no planning for that lock either.

Senator KILGORE. So that at the present time you cannot make any plans above Morgantown Dam; is that right?

You cannot even make any plans?

Colonel POTTER. That is right, sir.

Senator KILGORE. What would be the necessary planning cost for Opekiska?

Colonel POTTER. I would require about $35,000.

Senator KILGORE. About $35,000?

Colonel POTTER. Yes, sir.

Senator KILGORE. Those are all the questions I have to ask Colonel Potter, Mr. Chairman.

I would like to ask if Senator Neely has anything to say on this because, Mr. Chairman, Senator Neely lives right in the middle of this area. As a matter of fact, I grew up right in the middle of it myself. I would like to have the Senator say anything he wishes on this matter.

Chairman McKellar. I have not passed the stage where I do not think a Senator knows anything about his own State.

Senator Robinson. I hope you are not inferring that any other member of the committee has any different viewpoint on that.

STATEMENT OF HON. MATTHEW M. NEELY, A UNITED STATES SENATOR FROM THE STATE OF WEST VIRGINIA

Senator Neely. Mr. Chairman and gentlemen of the committee, notwithstanding the ice cold water which your distinguished member, Senator Robertson, has just showered upon the proponents of the improvement of navigation facilities on the Monongahela River from Fairmont to Pittsburgh, please let me assure you that as the apostle Paul thought himself happy to speak in behalf of his cause before King Agrippa so do I consider myself happy in exercising the privilege you have graciously granted me to speak before you in favor of the prompt completion of a project that is very dear to my heart and very important to the people of the United States.

The illustrious Virginian, Patrick Henry, once said, "It is natural for man to indulge in the illusion of hope." In my opinion, it is also natural for witnesses who appeal to the august Committee on Appropriations of either the Senate or the House for financial aid to indulge in the illusion of belief that rhetorical adornment or oratorical splendor will move the committee to grant the coveted relief. Please believe me, I am not a victim of this illusion. Well do I know that if anyone by fallacious argumentation, though phrased in the pure and eloquent diction of a Ciceronian oration, should attempt to persuade you to perform an improper service, he would thereby earn not your approval but your contempt, and, to his irreparable injury, kindle your wrath as Job kindled that of Elihu, the son of Barachel the Buzite, of the kindred of Ram.

In my opinion, the logical facts and the self-evident truths which support the cause in behalf of which I am about to speak will, though stated in the simplest language, convince the honorable, clear-visioned, truth-seeking members of this committee that the project under consideration is so very meritorious that it should be pushed to completion without a moment's delay. Therefore, with unlimited faith, hope, and confidence that you will eagerly and earnestly help us to solve the vital problem which is yours and the Nation's as well as ours, I proceed to an exposition of the facts in the case.

Of the appropriation of $162,060,500 for rivers and harbors proposed in the civil functions appropriation bill, which you are now considering, $4,000,000 would be allocated for a project designated in the House report on H. R. 4386 as "Monongahela River, Pa. and W. Va., lock No. 2 in Pittsburgh, and Morgantown lock and dam."

Chairman McKellar. That is now known as No. 8.

Senator Kilgore. No. 9 is near Morgantown.

Senator Neely. Mr. Chairman, I trust that my remarks will be regarded as applying to the improvement of the entire Monongahela River from its source at Fairmont, W. Va., to Pittsburgh, Pa., where it and the Allegheny River unite to form the Ohio.

Colonel Potter, of the Corps of Engineers, in testifying about this allocation before a subcommittee of the House Committee on Appropriations, on the 3d of April 1951, said: "This money is solely for the purpose of completing the contract on the second lock at dam No. 2."

The bill, in its present form, would not appropriate a penny for the improvement of shipping facilities on the upper part of the river. Therefore it fails to implement the long overdue Monongahela River project which was proposed by the Chief of Army Engineers in a report made to the Secretary of the Army on the 31st of May 1949.

It would do nothing to make available the benefits which, according to the report, "would result from the comprehensive improvement of the upper Monongahela River," which flows through one of the most extensive and valuable coal fields in the world. Of the counties within this field Marion and Monongalia alone are underlaid with veins of the very highest quality of coal ranging in thickness from 3 to 8 feet. It is authoritatively estimated that the amount of the coal in these counties exceeds 7,500,000,000 tons. But notwithstanding these impressive figures, the proper utilization of this coal has long been seriously handicapped by lack of modern transportation facilities on the Monongahela River. Not more than two barges can be simultaneously passed through any of the locks between Fairmont and Morgantown. At present the time required for a two-barge lockage operation is 1 hour and 45 minutes. Modernization of the locks would increase their capacity 200 percent and reduce lockage time to 30 minutes for six barges. If this modernization is not promptly effected, the reputation of being the fortress of American democracy which the Monongahela Valley proudly won during the Second World War will be lost, and approximately 40 percent of the coal-marketing power of the mines along the river in Marion and Monongalia Counties will be completely paralyzed. A continuation of the Government's failure to discharge its duty in this important matter will mean to a multitude of coal miners distressing losses of employment and wages, and to the Nation it might mean the difference between winning and losing a war.

But if you accept as conclusive the undisputed evidence that the locks and dams in question are wholly inadequate, you might nevertheless ask, Why modernize them at this critical time when, as a result of frenzied inflation, reasonable cost of construction has ceased to be more than a pleasant memory or a vanished dream? My response to such an inquiry would be as follows:

(1) Of the resources needed for the Nation's defense, coal is unquestionably one of the most important. Without it the furnace fires in all our great iron and steel mills would go out and steel could not be produced. Without iron and steel our weapons could not be made. Without weapons we could not win the Korean War, defend the Nation, or protect the liberty of mankind. In 1950 the coal moved by river from Monongalia and Marion Counties approximated 1,567,000 tons. It has been estimated that with the necessary modern locks and dams in the upper Monongahela, it would be not only possible but practicable to produce and ship from the 23 mines now in operation near the river in Marion and Monongalia Counties 15,000,000 tons of coal a year, or more than nine times the amount of the present production.

The importance of Marion and Monongalia County coal is daily and rapidly increasing because of the fact that the coal fields along the lower part of the river are fast nearing depletion. Consequently upon the coal and coke of the upper Monongahela Valley the entire iron and steel industry of the Pittsburgh area will soon be wholly dependent. And please note and remember that 35 percent of the

iron and steel used by the Nation is produced in the Pittsburgh area. For the Government to permit the transportation bottlenecks on the Monongahela River to stop or seriously to hinder this vital production would soon lose the Nation more than it wuld cost it to provide the modern facilities which we are entreating the committee to approve and recommend.

(2) For many years many mines in the upper Monongahela region have been limited in their operation to less than 65 percent of their capacity by lack of railroad cars or other facilities indispensable to the shipment of coal. For the 6 months period ending on the 31st day of December the Monongahela Railroad Co. was able to supply only 55.1 percent of the cars ordered for the mines in Marion and Monongalia Counties. One of the deplorable consequences of this lack of cars or other shipping facilities was that several hundred coal miners for a period of 6 months, through no fault of their own, lost more than 40 percent of their employment and compensation, and their families suffered a corresponding loss of the necessaries and comforts of daily life.

(3) Since 1945 the Congress has appropriated $48,374,500 for synthetic fuel research to enable this country to produce enough oil within its own boundaries to satisfy all its requirements in any emergency that might arise. The limits of our present oil production and our known oil reserves are such as to impel us to maintain an average daily importation of 950,000 barrels of oil from foreign lands.

On the 3d day of this month the following item appeared in the Washington Post:

> Secretary of the Interior Chapman set up a committee of oil company officials to plan for a possible emergency world-wide recognition of American petroleum facilities. The action emphasized the threat that the United States Government sees to the western world's distribution and supply system resulting from the difficulties in Iran.

Mr. Chairman, this is an impressive warning that this country should diligently strive to augment its domestic oil output by all conceivable means, including the synthetic manufacture of oil from coal—the feasibility of which the Government is demonstrating at this very hour in its pilot plant in Missouri, by synthetically manufacturing from coal 300 barrels of high-grade oil every day. The coal of the Monongahela Valley and adequate facilities for its river transportation would be indispensable to the satisfaction of any general demand for synthetic oil.

(4) The upper Monongahela area is noted not only for its coal but for its glass sand, building stone, pulp stone, clay and oil. Overtaxed railroad facilities are largely utilized in shipping these commodities, because river transportation facilities are inadequate. The facts of this situation add emphasis to the necessity for the modernization of the locks and dams in the upper Monongahela River.

(5) The Rivers and Harbors Congress, a nonpartisan, nonprofit group organized 50 years ago for the purpose of promoting the sound and orderly development of our national waterway and land resources, reported on May 11 of this year that it had classified the Monongahela River project as No. 1 on its class one list. In the words of the report, this means:

> The Rivers and Harbors Congress is convinced that the project is sound, needful, and sufficiently advanced in status and that it should be promptly constructed in the public interest.

It should be noted that this ringing recommendation was made not by a Pennsylvania or West Virginia organization, which might have had a special interest in the subject matter, but that it was proclaimed by a quasi-public group—the membership of which includes outstanding, public-spirited men from almost every State in the Union.

Three major items remain to be completed in the upper part of the Monongahela River Valley project: (*a*) The raising of the crest of Dam No. 8: (*b*) the construction of the Opekiska lock and dam, and (*c*) the construction of the Hildebrand lock and dam. All these items were recommended by the Chief of Engineers in his report to the Secretary of the Army on May 31, 1949. The authors of the Civil Functions Appropriation Bill, in failing to provide for the implementation of these recommendations, lost a golden opportunity to promote the general welfare and speed the completion of the national defense program.

In its deliberations concerning this important matter, we entreat the subcommittee to remember these facts which are conclusively proved of record: that steel is vital to the Nation both in peace and in war; that coal is indispensable to the production of steel; that 35 percent of the steel used in the United States is produced in the Pittsburgh region; that the coal fields in the lower Monongahela River area are virtually exhausted; that the great steel-producing plants in the Pittsburgh region must rely almost exclusively upon the mines in the upper Monongahela area for their supply of coal; and that, without the improvements under consideration 40 percent of the productive capacity of this area will perish in quietude instead of flourish for the benefit of the Nation and the world.

It has been predicted that the Monongahela Valley will, in the next hundred years, be the most important industrial valley of its length and breadth in the whole wide world. In this prediction I heartily concur, and voice the sincere belief that the making of the necessary appropriation for the purposes we have discussed will prove to be not a hazardous speculation, but a first-class investment for the people of the United States which will promptly return to them dividends that will greatly exceed the amount expended for the construction of the facilities which we sincerely hope that the subcommittee will not only favor but generously help to obtain.

Mr. Chairman and gentlemen of the committee, for your courtesy and patience in hearing me I thank you again and again.

Chairman McKellar. Gentleman, are there any questions?

Senator Kilgore. I would like to ask Colonel Potter one other question.

With respect to Hildebrand and Opekiska, after the planning is completed, how long would it take to actually construct the locks?

Colonel Potter. A modern lock takes about 2 years to build, sir, and the dam to go with it, I would say, another 2 years.

Senator Kilgore. It would take at least 2 years after the planning is completed?

Colonel Potter. To complete the whole project after the planning has been accomplished would take in the neighborhood of 3 to 4 years, sir.

Senator Kilgore. Thank you very much.

Chairman McKellar. Let me ask a question.

The Corps of Engineers recommended the $35,000 planning money; did they not?

Colonel POTTER. We recommended planning money for Hildebrand, sir.

Chairman MCKELLAR. What did the corps recommend for the other project?

Colonel POTTER. For dam No. 8, we recommended $1,784,000 to the Bureau of the Budget.

Chairman MCKELLAR. And the budget turned it down?

Colonel POTTER. Yes, sir.

Chairman MCKELLAR. On the ground that it was a new project?

Colonel POTTER. That and the lack of ceiling, I imagine, sir. That is just my opinion.

Chairman MCKELLAR. Is that correct, Mr. MacPhail?

Mr. MACPHAIL. Colonel Potter's statement is correct. It was submitted to us as an overceiling item, and along with virtually all of the overceiling items, it was not included in the budget.

Senator NEELY. Colonel Potter, is it not a fact that the Hildebrand project, if translated into reality, would replace obsolete locks Nos. 12, 13, and 14, above Morgantown?

Colonel POTTER. That is right, sir.

Senator NEELY. So, instead of providing for new construction the project would merely replace the three existing facilities that are now obsolete?

Colonel POTTER. That is right, sir.

Chairman MCKELLAR. When were these locks and dams put in?

Colonel POTTER. About 40 years ago.

Senator NEELY. About 45, to be exact.

Senator KILGORE. Mr. Chairman, I would like to ask Dr. Paul H. Price, State geologist for West Virginia, to state the situation on metallurgical coal, the supplies in that basin, and their necessity.

I believe you have a written statement, Dr. Price. I wonder if you would care to file that and just high light it with a map for the committee as briefly as you possibly can.

Chairman MCKELLAR. Is this coal soft coal or hard coal?

Senator KILGORE. It is bituminous and metallurgical coal also.

STATEMENT OF DR. PAUL H. PRICE, STATE GEOLOGIST FOR WEST VIRGINIA

IMPROVED NAVIGATION FACILITIES, MONONGAHELA RIVER, W. VA.

Dr. PRICE. Mr. Chairman and gentlemen of the committee, I would like to file my written statement for the record.

Chairman MCKELLAR. Without objection, that will be placed in the record.

(The statement referred to is as follows:)

STATEMENT BY DR. PAUL H. PRICE, STATE GEOLOGIST FOR WEST VIRGINIA

Other than a few years time out for additional schooling and Army service, I have spent my entire professional career (30 years) with the State geological survey on the banks of the Monongahela River at Morgantown, W. Va. This should qualify me to speak with some authority on the mineral resources of the watershed of the area and the needs for their more efficient development and utilization.

As State geologist I have appeared twice previously to urge improved navigation facilities for the upper Monongahela River.

The first occasion was on December 11, 1947, at the public hearing for that purpose held at Morgantown, W. Va. The second was here in Washington before the Senate Subcommittee on Public Works on March 14, 1948.

At each of these meetings, among other things, I said "I favor and strongly recommend improving the existing waterway transportation facilities of the upper Monongahela River, because it will greatly aid the further development of the area's vast natural resources, and can therefore be looked upon as an investment rather than an expenditure."

At both appearances I submitted a prepared written statement, with map, outlining the mineral resources which would be effected by such improvements.

The full development of these resources will bring about not only industries for their recovery but numerous allied and subsidiary industries as byproducts, which in turn makes for more real wealth, employment, better living conditions, and new sources of wealth for taxation.

A revised copy of the original statement is again submitted but I should like to amplify a few of the major points.

1. The area abounds in fuels, especially coal of metallurgical grade. There yet remains at the beginning of this year, within 10 miles of the river in the two counties of Monongalia and Marion, over 3,000,000,000 tons of coal in seams 3 feet in thickness and over. At the present rate of production these coals will last over 100 years.

2. Other important bulk resources requiring low-cost transportation are dimension stone, pulpstone, glass sand, and clays.

Our present national defense program requires great quantities of steel. The manufacture of steel requires a low-sulfur metallurgical coal. To a large extent our steel industry is located in the Pittsburgh, Weirton, and Wheeling districts served by the Monongahela and Ohio Rivers and designed to use water transportation.

The reserve of low-sulfur metallurgical coal which formerly furnished the chief supply for these mills is rapidly approaching exhaustion. It is, therefore, evident that these steel companies must obtain their coals from other fields of greater distances. Such reserves are available on the upper reaches of the Monongahela River. It appears therefore, that the principal and logical sources of metallurgical coal for the Pittsburgh-Weirton and Wheeling districts will be the low-sulfur upper Freeport coal of Monongalia and Preston counties and the remaining low-sulphur reserves in the Pittsburgh coal seam adjacent to the Monongahela River.

As an integral part of our defense planning great emphasis is being given by the Department of the Interior and other Government agencies to synthetic liquid fuels. The United States Bureau of Mines station on the university campus at Morgantown is carrying on continuous research on the gasification of coals, an important phase of this program. Great progress has already been made.

In preliminary investigations for a liquid synthetic fuel plant a logical site was shown to be on the upper Monongahela. The area abounds in the necessary raw materials of coal and water.

In view of these facts it appears obvious that this request for improved navigation facilities is very urgently needed in our defense program.

A detailed description of the more important mineral resources, together with a map showing the location of these resources in relation to that section of the Monongahela River recommended for waterway improvement, follows:

NATURAL RESOURCES OF MONONGALIA AND MARION COUNTIES, W. VA.

The following data have been compiled from West Virginia Geological Survey Reports[1] together with the writer's own knowledge of the area. These included data are purposely made brief. For further detailed information the reader is referred to the above-noted publication.

Coal.—At the present time coal is by far the most important natural resource in these two counties. Much of the coal is of metallurgical grade. The approximate location and original quantities available can best be shown by means of tables and outline figures. With the exception of the Washington, which has been computed to have an average thickness of only 2 feet, all the coals included in this report have an average of 3 feet or more. All figures on coal tonnages available represent the original amounts. It is the writer's belief that long before the thicker seams are exhausted, better mining methods will permit the mining

[1] Monongalia-Marion-Taylor Counties, Detailed Geological Report with topographic and geologic maps, scale 1–62.5000.

of more coal from the present seams as well as thinner seams, equal to what has already been taken from the area. The amount of coal by counties, districts, and seams follows:

Available coals in Monongalia and Marion Counties

WASHINGTON COAL

Counties by districts	Square miles	Acres	Cubic feet of coal	Short tons of coal
Monongalia:				
Battelle	56.40	36,096	3,144,683,520	125,787,341
Clay	57.04	36,506	3,180,402,720	127,216,109
Cass	7.65	4,896	426,539,520	17,061,581
Grant	6.70	4,288	373,568,560	14,942,742
Total	127.79	81,786	7,125,194,320	285,007,773
Marion:				
Mannington	90.79	58,106	5,062,194,720	202,487,789
Pawpaw	15.65	10,016	872,593,920	34,903,757
Lincoln	24.01	15,366	1,338,685,920	53,547,437
Fairmont	4.18	2,675	231,046,000	9,241,841
Total	134.63	86,163	7,504,520,560	300,180,824
Total for area	262.42	167,949	14,629,714,880	585,188,597

WAYNESBURG COAL

Monongalia:				
Battelle	56.40	36,096	5,403,196,160	216,127,846
Clay	63.43	40,595	6,199,113,700	247,964,548
Cass	16.69	10,682	1,628,576,720	65,143,069
Grant	17.69	11,322	1,726,152,120	69,046,085
Total	154.21	98,695	14,957,038,700	598,281,548
Marion:				
Mannington	98.30	62,912	9,591,562,520	383,662,501
Pawpaw	29.60	18,944	2,888,202,240	115,528,090
Lincoln	42.44	27,162	4,141,118,520	165,644,741
Fairmont	9.35	5,984	912,320,640	36,492,826
Grant	.52	333	50,769,180	2,030,767
Total	180.21	155,335	17,583,973,100	703,358,925
Total for area	334.42	214,030	32,541,011,800	1,301,640,473

SEWICKLEY COAL

Monongalia:				
Battelle	56.40	36,096	7,075,537,920	283,021,517
Clay	63.49	40,634	7,965,076,680	318,631,067
Cass	28.04	17,946	3,517,774,920	140,710,997
Grant	32.23	20,627	4,043,304,540	161,732,182
Total	180.16	115,303	22,601,694,060	904,095,763
Marion:				
Mannington	100.09	64,058	12,556,649,160	502,265,966
Pawpaw	38.49	24,634	4,828,756,680	193,150,267
Lincoln	56.02	35,853	7,081,905,060	283,276,202
Fairmont	19.29	12,346	2,420,062,920	96,802,517
Total	213.89	136,891	26,887,373,820	1,075,494,952
Total for area	394.05	252,194	49,489,067,880	1,979,590,715

REDSTONE COAL

Monongalia	11.27	7,212.8	125,675,828	5,027,032

Available coals in Monongalia and Marion Counties—Continued

PITTSBURGH COAL

Counties by districts	Square miles	Acres	Cubic feet of coal	Short tons of coal
Monongalia:				
Battelle	56.40	36,096	10,936,392,320	437,455,693
Clay	63.49	40,634	12,389,319,280	495,572,771
Cass	29.66	18,982	5,787,991,440	231,519,658
Grant	34.45	22,048	6,722,876,160	268,915,046
Union	8.22	5,261	1,604,184,120	64,167,365
Morgan	1.21	774	236,008,080	9,440,323
Clinton	.01	6	1,829,520	73,181
Total	193.44	123,801	37,678,600,920	1,507,144,037
Marion:				
Mannington	100.09	64,058	19,532,565,360	781,302,614
Pawpaw	39.01	24,966	7,682,632,720	307,305,309
Lincoln	56.42	36,109	11,010,356,280	440,414,251
Fairmont	19.81	12,678	3,865,775,760	154,631,030
Grant	13.68	8,755	2,669,574,600	106,782,984
Winfield	3.29	2,106	642,161,520	25,686,461
Union	1.02	653	199,182,760	7,967,310
Total	233.32	149,325	45,602,249,000	1,824,089,959
Total for area	426.76	273,126	83,280,849,920	3,331,233,996

UPPER FREEPORT COAL

Monongalia:				
Grant	1.17	748.8	97,853,184	3,914,127
Union	14.75	9,440	1,233,619,200	49,344,768
Morgan	12.25	7,840	1,024,531,200	40,981,248
Clinton	25.25	16,160	2,111,788,800	84,471,552
Total	53.42	34,188.8	4,467,792,384	178,711,695
Marion:				
Winfield	17.02	10,892.8	1,423,471,104	56,938,844
Union	.99	633.6	82,798,848	
Total	18.01	11,526.4	1,506,269,952	56,938,844
Total for area	71.43	45,715.2	5,974,062,336	235,650,539

LOWER KITTANNING COAL

Monongalia	24.01	15,366	2,677,371,840	107,094,874
Marion	66.40	42,496	7,408,503,040	296,340,122
Total for area	90.41	57,862	10,085,874,880	403,434,996
Grand total, Monongalia and Marion	1,590.76	1,141,890	196,126,257,524	7,841,766,348

Clay and shale.—The Monongalia and Marion area is well supplied with valuable clay and shale deposits, and at numerous geological horizons, but at the present time only a small proportion of these are utilized. The clay industry will provide employment for a large number of people in this district as well as considerable income to the operators of this area. When the important undeveloped deposits become better known and considered in connection with better transportation facilities, the industry is expected to greatly increase.

On the Monongahela River, between Morgantown and the Pennsylvania line and along Dunkard Creek, there are large deposits of river clay that are suitable for brick manufacture. These deposits were formerly worked successfully at Morgantown.

There is an abundance of excellent shale for brickmaking in every district of the two counties. The Washington fire clay shale, which occurs just below the Washington coal, will provide material for brick wherever found. At least these shales of this Conemaugh series, bisecting the area from north to south, are good for both building and paving brick. The Mauch Chunk red shale, some 300 feet thick at its outcrop along Cheat River and Deckers Creek in Monongalia County, offers an unlimited amount of material suitable for brick.

Refractory clay.—East of the Monongahela River, fire clays are found in each of the two counties. Because of their quality and quantity these refractory clays will be in much greater demand in the very near future. Fire brick is now manufactured at Hammond, Marion County.

Available limestone.—Limestone suitable for road construction and agricultural purposes are found in the Monongahela, Conemaugh, Allegheny, and Greenbrier series in each of the two counties. Limestone suitable for cement manufacture is confined to three localities in eastern Monongalia County. At Greer, Monongalia County, a large limestone plant has been in active operation for many years.

River and creek gravel.—There is an abundant supply of gravel in nearly all the larger stream beds that is available for road material.

Available sand.—The stream terrace deposits of the Monongahela Valley, already extensively developed, offer a large amount of sand for building purposes. This sand is unconsolidated and convenient to transportation.

Pulpstone and building stones.—Monongalia County is probably the largest individual producer of natural pulpstone abrasive in the world. In former times and even yet this is a valuable resource to this area. These stones are for the most part shipped to the various pulp mills of the United States and Canada. Occasional orders have been shipped to Japan. These pulpstone quarries are all located along the Monongahela River between Fairmont and Morgantown.

Along with pulpstone the entire area is blessed with an unlimited supply of excellent sandstones suitable for all kinds of masonry and construction work. The use for which these stones have been put has been confined largely at steel building, i. e., Methodist Episcopal Church, president's home, and numerous private homes in Morgantown, walls, bridge piers and abutments, and curbing both locally and at Pittsburgh, Pa. The only reason these natural building stones have not had a greater development is because of expensive quarrying operations and freight rates.

Monongahela River transportation and new techniques in quarrying will undoubtedly place the natural building stone of this area in a strong competitive position among the building stones of the country.

A list of sandstone horizons that have been or are now being operated in this area follows:

Quarry	Sandstone horizon	Location
J. D. Charlton	Mannington	Mannington.
A. R. Wilcox	Waynesburg	Downs.
George Creek C. & O.	do	Underwood.
C. B. Conoway	do	Barracksville.
Georges Creek C. & O.	Gilboy	Underwood.
J. F. Watson	Sewickley (Arnoldsburg)	Fairmont.
George Lilley	Pittsburgh	Do.
J. F. Watson	Upper Pittsburgh	Do.
W. B. Ice & Co.	do	Do.
Wm. Cox	(Lower) Connelsville	Morgantown.
Zeverly & Casto	Morgantown	Do.
Wm. Gaston	do	Do.
W. A. Willhide	Buffalo	Grafton.
Charles Stozenfels	do	Do.
John M. Keane	do	Do.
Christian	do	Morgantown.
L. V. Keck	do	Do.
Sims & Co.	Mahoning (upper Freeport)	Yates.
D. N. Going	Homewood	Dellslow.
Deckers Creek Sand Co.	Homewood (upper Connequessing)	Sturgisson.

Glass sand.—Sandstones suitable for glass sand are found in the Pottsville series in both counties. In the valley of Deckers Creek, Monongalia County, these horizons are now being operated for glass sand as well as other purposes for which sand is used.

In the Cheat River Canyon the Pottsville series is exposed throughout a large areal extent, but lack of transportation prevents present development. Along the Tygart River in Marion County and bordering Taylor County, the Homewood and Connoquenessing sandstones outcrop at Valley Falls, where quarries could easily be developed.

Iron ore.—Monongalia County was the scene of an extensive iron-making industry from 1800 to 1870. Five furnaces were operated along Cheat River near Ice's Ferry, one at Clinton Furnace, on Booths Creek, and one at Rock

Forge on Deckers Creek. In Marion County there was a furnace on Piney Run, Winfield district.

The iron ore available in the territory of this report is largely from carbonate and is not of sufficient quality and quantity to compete with the Lake Superior ores.

Natural gas and petroleum.—Monongalia and Marion Counties have been important producers of Penn-grade petroleum in past years but present production is very small. In these old fields however, there remains as much or even more oil than was produced by primary methods. Secondary recovery methods which are now being generally adapted will cause these counties to continue to produce oil for many years.

New discoveries of large volume natural gas fields in the adjoining counties together with improved storage and pipeline facilities assures the area of abundant supply of this important fuel.

MORGANTOWN LOCK AND DAM FACILITIES, UPPER MONONGAHELA RIVER, W. VA.

Dr. PRICE. Mr. Chairman, perhaps my best qualification to speak upon this subject is that except for a few years out for additional schooling and a few years in the service, I have lived my entire professional career, 30 years, at Morgantown on the upper Monogahela River.

As State geologist, I have appeared twice before on this subject, the first before the public hearing of the Army engineers at Morgantown, W. Va., on December 12, 1947; the second before the Senate Subcommittee on Public Works, March 14, 1948. Both times, I prepared a written statement which has been revised and brought up to date and which is submitted here, in which I said to complete or improve the lock and dam facilities for the upper Monongahela River would bring about the most efficient development of those resources and consequently should not be considered an expenditure but an investment. To improve these will bring on the development of new resources, which I will mention, which will create employment, additional industry, and consequently new taxable wealth.

The resources of the area, as has been said, are primarily coals, one of the largest and most important coal reserves in the world. There are other resources in the area, especially bulk resources such as dimension stone, building stone, pulpstone, clays, limestone, and of course soft brine which may bring about additional development.

Senator KILGORE. Dr. Price, is not a fact that the stone from which the Pennsylvania Station in New York City was built came out of that area?

Dr. PRICE. Yes, sir; was cut from the quarry just above; and also the synod of St. John the Divine in New York and the Q Street Bridge in Washington likewise came from there.

Chairman MCKELLAR. I notice among the products you have listed there is clay. What kind of clay is that and for what is it used?

Dr. PRICE. We have several types of clays in the area, the ordinary clays that are used for ordinary brick and paving brick, and also refractory clays that take high temperatures, that are used for lining furnaces.

Senator ROBERTSON. I may say to the doctor that a New York architect told me last week that the stone carving in the Cathedral of St. John the Divine in New York was the finest in the United States.

Dr. PRICE. Thank you, sir.

Chairman McKellar. Is that from this area?

Dr. Price. It is from that area. The quarries are not being operated at the present time.

STEEL INDUSTRY DEPENDENT ON LOW-COST BARGE SHIPMENTS

In view of the fact that consideration will probably be given at this time to those things which only have to do with national defense, I would like to limit my discussion to what I consider two important points which, I believe, fit very definitely into national defense. Most emphasis given here, of course, will be to metallurgical coal for steel.

I have brought with me and have before you here a detailed geological report prepared by our survey of the counties of Marion and Monongalia and the northern part of Harrison County, the resources of which will all play a part with this transportation.

As has been said, as I have said in my report, the steel industries located in the Pittsburgh area, and Wheeling areas of West Virginia are dependent upon this low-sulfur coal. As I understand it, the coal that formerly supplied most of the demand in the Pittsburgh, Uniontown, Masontown area, is rapidly being exhausted and the distances are farther and farther from the mills.

Consequently, in our area, which is south, farther up the river, more and more mines are being opened up which I have shown there. We do have great quantities of these coals. Our figures show that between Morgantown here and Fairmont there, that portion of the river in which we are especially interested, there are 3 billion tons of coal within a radius of 10 miles of this river which will, according to our present rate of production, assure us of their continuance for at least 100 years.

So that I feel there is no question but what with the demand for steel, the demand for metallurgical coal, the majority of it must come from those areas. Therefore, we should have better and more modern facilities to do it.

Senator Stennis. You say these 3 billion tons of coal are within a 10-mile radius of one point there?

Dr. Price. I should not have said radius; either side of the river.

Senator Stennis. Ten miles on either side of the river?

Dr. Price. Yes.

COAL FOR PROPOSED LIQUID SYNTHETIC FUEL PLANT FROM UPPER MONONGAHELA RIVER AREA

My second point has to do with synthetic fuels. As has been said, the Secretary of the Interior some weeks ago put out an information circular to the effect or asking that the coal industry proceed with the construction of a hydrogenation or liquid synthetic fuel plant.

During the present year, at the St. Louis meeting of the American Institute of Mining and Metallurgical Engineers, Senator O'Mahoney almost ordered the coal industry to proceed with the construction of the liquid synthetic fuel plant.

If such is to be done, I feel that a large part of the coal will certainly come from this area. There have been estimates prepared for the possible location of at least two of these plants within this watershed,

one here in West Mongalia, the second on the headwaters of this river just south of Clarksburg, W. Va.

Senator ROBERTSON. May I interrupt to ask a question there?

You have spoken of the Government's plan to use coal for synthetic gas like the Germans did, I believe, in the last war. Can you explain to me why the Government at the Morgantown ordnance works, where you say there are 2 billion or 3 billion tons of coal, is planning to abandon coal and bring natural gas from Texas into that plant when the coal tipple mouth is open about 200 yards or more from the plant itself?

Dr. PRICE. You are asking me?

Senator NEELY. Senator Kilgore and I join in hoping that somebody can make an acceptable answer to that question, too.

Senator ROBERTSON. There are some companies which do not have an adequate market either because the trains do not reach them at all or else the freight is so high that it is not economical for a steel mill to compete with those who get cheaper transportation.

PROTEST OF ENFORCED USE OF NATURAL GAS IN LIEU OF COAL SUPPLY

Do you know about this plan of the Government to shift from coal to natural gas?

Representative Bow has introduced an amendment to the defense production bill to block the Secretary of the Interior from issuing an order freezing all the users of gas at the present level, including municipalities that have their own gas plants and who have ordered everybody to shift to the municipal gas supply.

Now, does the Government's right hand know what its left hand is doing, or what?

Dr. PRICE. Sir, I am not in the Government. I have very definite opinions on that.

Senator ROBERTSON. You do not feel under any inhibitions to express them, do you?

Dr. PRICE. No, sir.

To answer your question first, why the Government is doing that, I of course do not know.

Senator ROBERTSON. Is it true that the Government has made such a proposal?

Senator NEELY. Mr. Chairman, if you will permit me to answer, there is no question about that, it is being discussed. This is the very matter I talked to Senator Robertson about a few days ago. Senator Kilgore and I protested against it to everybody we could reach. Recently I took it up with Senator Johnson's committee. He told me only day before yesterday that their attorney, Mr. Cook, had been assured by the Secretary of the Army that he would go into this thing immediately and give us a report as to why this has been authorized or why it was being favorably considered. Senator Kilgore and I are anxiously awaiting that report and hoping that we will hear that they have abandoned the idea of substituting gas, as Senator Robertson said, to be piped from Texas and Mississippi, I understand also, into West Virginia, in the heart of one of the greatest coal fields in the world.

Senator ROBERTSON. Virginia does not produce as much coal as West Virginia, but it does produce some coal. I am a little familiar with

coal problems and I am very much interested, whether it is in Virginia, West Virginia, or anywhere else.

Senator KILGORE. Mr. Chairman, may I say at this point that the two Senators from Mississippi are bitterly opposed to the utilization of that gas up there because they say they need it for industrial purposes in the State of Mississippi.

Senator STENNIS. That is right. I was going to put that in the record, Mr. Chairman, that we protest. As the line comes through Mississippi, we cannot get them to supply the little towns. They are carrying that gas up into the coal-field areas and using it up there as a substitute for coal.

Senator NEELY. I hope, Senator Robertson, you will sharpen your ax and, if necessary, enlarge it and use it on this proposal to throw away a miminmum of $8,500,000 to substitute gas from a field 1,500 miles away for coal, coal which is available, billions of tons of it, in an area 20 miles of where this plant is.

Senator ROBERTSON. $8,500,000 to shift from coal to gas?

Senator NEELY. Switching from coal to gas.

Senator ROBERTSON. That would build one project, that $3,000,000 project, and go pretty far on the other one.

Senator KILGORE. That is correct.

Chairman MCKELLAR. Returning to the question we were discussing about synthetic oil, you hear some talk that it is going to be used in place of coal. I have always had the idea that a synthetically produced product is always very much costlier than the product that you get out of the ground, such as coal.

Dr. PRICE. That is true. I feel sure that the statistics prepared by the United States Bureau of Mines would show that that would be the case at the present time. As matters stand, I believe it is agreed that liquid synthetic fuels cannot compete economically with natural petroleum. I believe we will be having synthetic fuels before very long; it will be economic, because the technology is improving so rapidly. However, I believe we can feel sure that if any of the important world supply of oil is cut off——

Senator ROBERTSON. One-fourth of the world supply is in dispute in Iran right now.

Dr. PRICE. That is my point. Should that oil be cut off from us and from the rest of the world, I believe that Congress would authorize the construction of liquid synthetic fuel plants very rapidly.

Senator ROBERTSON. The average cost of gasoline in Europe now is 65 cents a gallon.

Senator KILGORE. Mr. Chairman, the purpose really of the request for the construction of a synthetic-fuel plant was what might be called a pilot-plant operation at a commercial level to determine costs and possible technological improvements. Is that not right?

Dr. PRICE. Not what I had in mind at that time, Senator. If you mean the Bureau of Mines installation, that would be true, the hydrogenation plant.

Senator KILGORE. Is the coal industry to go into that?

Dr. PRICE. No; I do not think so.

Senator KILGORE. I know that the Amoco gas has a certain amount of synthetic liquid fuel in it. That is why the high-test Amoco is 2 cents higher than high-test Esso or high-test Texaco gas. They have

a little bit of synthetic fuel blended in there which they say improves the quality of the fuel. I do not know.

Dr. PRICE. Perhaps I have more time than I should. I would like to reemphasize two points. It is the most important reserve, the most important source of our metallurgical coal on the Monongahela River; secondly, should important oil resources in the rest of the world be cut off, we would probably be developing synthetic fuels from coal, and the resources for it are there.

If I can answer any other questions, I shall be glad to do so.

Senator KILGORE. Is there not considerable limestone in that area, too?

Dr. PRICE. Yes, sir.

Senator KILGORE. Limestone that can be used metallurgically?

Dr. PRICE. Not metallurgically.

Senator NEELY. Dr. Price, do you know of any other metallurgical coal fields in the United States that are equal to Preston and Monongalia County fields?

METALLURGICAL COAL

Dr. PRICE. We are rapidly running out of the metallurgical coal and the Bureau of Mines has quite a survey now, a detailed survey, to establish definitely our reserves of coal with a sulphur content of less than 1.15.

Senator NEELY. Do you not believe that in view of the rapid advances that are being made in the technological processes involved in making gas out of coal that it may soon become possible to produce it at practically the same figure at which natural gas is now supplied?

Dr. PRICE. I do, sir, and I believe that as our natural gas gradually diminishes, the pipeline system will be taken over by gas made from coal.

Senator NEELY. Thank you very much.

Senator STENNIS. Mr. Chairman, if the doctor has finished, I want to ask Senator Neely a question.

Chairman MCKELLAR. Is there any one who desires to ask Dr. Price any questions?

If not, Doctor, we are very much obliged to you for a most interesting discussion of this matter.

Dr. PRICE. Thank you, sir.

LOCK AND DAM PROJECT LOCATED AT MORGANTOWN, W. VA.

Senator STENNIS. Mr. Chairman, I was impressed with Senator Neely's statement here. The project now that you are talking about is right in this area that the doctor described?

Senator NEELY. That is right.

Senator STENNIS. I did not catch the name, as I came in a little late.

Senator NEELY. It is Morgantown, which happens to be my own city, I am proud to say. The river is formed about a mile and a half above Fairmont or south of Fairmont by the junction of the Tygart Valley and the West Fork and flows 128 miles almost directly northward to Pittsburgh, where it empties into the Ohio. On this upper reach between Fairmont, where the river is formed, and Morgantown, 22 miles away, the greater part of all this metallurgical coal lies, and ap-

proximately 3 billion tons within an area of 10 miles on each side of that river between Morgantown and Fairmont, which are only 22 miles apart.

Senator STENNIS. Thank you, sir. That clears it up.

Senator NEELY. It is one of the richest coal fields in the world.

MISSOURI RIVER PROGRAM

STATEMENT OF HON. KENNETH S. WHERRY, A UNITED STATES SENATOR FROM THE STATE OF NEBRASKA

NEBRASKA CITY FLOOD WALL, NEBRASKA

Chairman MCKELLAR. Senator Wherry wants to ask Colonel Potter some questions and he says it will take him only 5 minutes.

Senator WHERRY. I deeply appreciate the opportunity as a visitor and I thank you very much for allowing me to speak at this time.

I am here in the interest of a sea wall for the town of Nebraska City, Nebr. We have already authorized it. Just to make this as brief as possible, and I want to do this while Colonel Potter is here, because he has first-hand information about this, there have been authorized appropriations for a levee on the west side of the Missouri River up and down that river for several miles, a part of the river system. This little sea wall is one minute part of that complete authorization. The Bureau of the Budget determined that there would be no new starts, therefore the authorization, although it has been made by Congress, is being held up. Of course, I am not here objecting to the decision of the Budget Bureau except that here is a sea wall that must be built to protect the power plant of Nebraska City, Nebr.

Their needs for electric energy have increased. They are doing their own building, but the power plant addition will occupy land where sand bag protection has been placed in past floods. Therefore, unless the sea wall is provided, there is no protection for the plant in the event of a flood. The city does a lot of processing and it is one of our modern towns.

Now, although other sections of this flood-control project are desirable, as I have said, they are not of the same urgent nature as the sea-wall section.

AMOUNT REQUESTED

At my request, the engineers reviewed the project once again and have determined that the power plant protection can be provided for an estimated cost of about $90,000.

Meanwhile, the city of Nebraska City has contracted for the power plant addition, thinking this flood wall would be built, and has gone ahead with contracts for generating equipment. They need it for power and I am asking this committee to consider two amendments. You have the option of granting an outright appropriation for $90,000 for this flood wall, or, out of the flood control appropriation earmark $90,000 for it.

Senator ROBERTSON. Can I ask you a question?

Was this matter presented to the budget?

Senator WHERRY. It was presented to the budget, not as to the flood wall alone, but as complete building of the levee system for the Missouri River.

Senator ROBERTSON. Did the Senator send it to the budget for an estimate on it?

Senator WHERRY. The budget was submitted before this emergency developed. As I understand it, and Colonel Potter is here and he can bear me out, the whole of this levee system plan was held up, and since then the Nebraska City power shortage developed.

I am not quarreling about building the complete miles of levee. I am not quarreling with that. But there now exists an emergency problem of the small flood wall and unless the committee acts favorably, the flood wall will not be built until new starts are permitted generally.

Senator ROBERTSON. You have heard of Stonewall Jackson who was born in Virginia and lived in my home town of Lexington. I want to remind you of how you and I have been standing for economy like Stonewall Jackson. As a member of the Appropriations Committee, you know the rule we adopted last year about starting new projects.

Senator WHERRY. That is right.

Senator ROBERTSON. You are asking us now to make an exception to that rule?

Senator WHERRY. No, I am not asking you to make an exception, and I do not want to take funds away from anybody else, where a project start has been made. But that is why I offer the problem with optional amendments, either granting $90,000 additional or by earmarking funds out of the existing total in this bill for levee work. I am making the record very clear and I feel my record is equal to yours on economy; I not only cut at home but I cut abroad. Now you cut at home all right but you have gone pretty far on foreign spending which you are doing we are financing public works in Italy right now that you are not going to do in Nebraska City.

Senator ROBERTSON. I am going to grab some of these foreigners on this next bill. Now, you said in January that we must cut domestic expenditures $6,000,000,000.

Senator WHERRY. That is right, I am voting for it.

Senator ROBERTSON. Yesterday the State chambers of commerce through their research bureau here issued a little summary of what we have done in eight bills. Do you know how much they said we had cut? It amounts to $1,300,000,000 approximately of your $6,000,000,000. We have finished everything else except foreign aid and military on which we can make any large cuts. We are up against it, are we not?

Senator WHERRY. Mr. Chairman, I did not want to get into an altercation over Stonewall Jackson. I know Senator Robertson is very sympathetic; I feel that inasmuch as they started this power plant and it is only a very few feet that needs to be built, that in the interest of economy—I will put it that way—in the interest of economy, this little sea wall, I think, should receive your favorable consideration. I leave the statement with you and also two ways in which I think you can fix it.

I would like to ask Colonel Potter one question.

Colonel, you have been there. Is what I have said about correct? I want you to correct the record if what I have said is not so.

Colonel POTTER. I can only augment it to say, sir, that this particular project is a part of the general levee program for the Missouri River authorized by Congress in the 1944 Flood Control Act.

Senator WHERRY. Do you feel this is an emergency at Nebraska City?

Colonel POTTER. The trouble the cities on the Kansas River are having with water and power during this present flood would cause me to agree, sir, and only the fact that it is authorized and above $50,000 has prevented us from going into local work.

Senator WHERRY. Thank you very much, indeed. I would like to insert a prepared statement, a letter, and a newspaper item for the record.

Senator MCKELLAR. You may do that, Senator.

(The documents are as follows:)

An increase of $90,000 in the amount of money provided for general flood control construction work by the Corps of Engineers is requested to meet an unusual emergency problem existing at the town of Nebraska City, Nebr., on the west bank of the Missouri River.

This town owns and operates a municipal light plant which is located on the river bank and is the sole source of electric energy for the municipality and a surrounding agricultural area. Consumption of electric energy has increased to the point where present plant facilities are overtaxed and it has become mandatory that an additional power-producing unit be installed. In the past 5 years electric sales have doubled for Nebraska City, its agricultural-service area, and 10 surrounding communities. The overload of the existing plant makes a maximum firm power supply impossible and frequent transmission line troubles and periods when household customers are cut off from power supplies have resulted.

The existing plant is so situated on the river front that the only location for the plant addition is an area which in past periods of high water has been temporarily protected against flooding by the emergency building of sandbag dikes. When the new addition is constructed no place will remain for throwing up sandbag dikes when future high-water periods require such protection.

The only alternative is the erection of a small section of concrete sea wall. Such a sea wall was recommended and authorized to be built by engineers as part of a larger flood-protection system along an extended area of the river in the vicinity of Nebraska City.

Although other sections of this flood-control project are desirable, they are not of the same emergent nature as the sea-wall section and at my request the engineers reviewed the project and have determined that the power-plant protection can be provided by a scaled-down project estimated to cost $90,000.

Meanwhile, the town of Nebraska City has obtained bids and let a construction contract for its plant addition and the purchase of an additional generating unit, which are being held up contingent on a definite answer whether flood-control assistance will be forthcoming. The community prayerfully hopes that such approval and clearance can be made available to them by midsummer at the latest.

This is a most unusual situation, and no other recourse exists if electric service for the town of Nebraska City is to continue without the certainty of plant damage or destruction by flood waters at some future date. It is not unusual to have floods rising above the level of the plant at least once or more times in a 3-year period. For that reason it is felt that special consideration and agreement of this subcommittee is justified.

NEBRASKA CITY NEWS-PRESS,
Nebraska City, Nebr., March 19, 1951.

Senator KENNETH S. WHERRY,
Senate Office Building, Washington, D. C.

DEAR KEN: Your summary of the flood situation at the site of our power plant is excellent.

We do have, however, one outside source of supply—a transmission line. But we are taking all we can over this line and still do not have firm power. In

other words, when the transmission line "goes out" as it did the other evening during a sleet storm near Plattsmouth, we were out of "juice" here in Nebraska City, in the country and in the 10 towns for a time because our plant capacity cannot carry the load when the line is down. Likewise, when the plant is down, the line can't carry the load. So we need this new capacity very badly.

Also, we can't very well move the plant from the present location, as it also is the water-pumping station and some of the city's gas equipment is there.

If the subcommittee would be interested, I can send pictures of the last flood we had. However, I believe the engineers also have these.

Thank you very much for what you are doing. We certainly appreciate it here—myself and the entire board of public works. We didn't bother you with this while you were in the State, feeling that you already have our viewpoint.

ARTHUR SWEET.

[From News-Press, Nebraska City, Nebr., May 13, 1951]

CITY HOPEFUL FOR SEA WALL—INTEREST IN RIVER PROBLEM IS SHOWN BY CONGRESSMEN

Vern Livingston, manager of Nebraska City Utilities, said Saturday on his return from Washington there is "a very good chance" for an appropriation of about $100,000 for the United States engineers to construct flood protection around the utilities plant on the river front.

Livingston returned Saturday from the Capital where he, City Attorney Vantine James, J. W. Gangel, chairman of the board of public works, and Charles Durham of Omaha, consulting engineer, met with the Civil Affairs Subcommittee of the House Wednesday.

The Nebrask Citians went to Washington to ask the subcommittee to approve a $90,000 expenditure for a sea wall along the Missouri River to keep the property from being flooded in event of high water.

Livingston said that the delegation received encouragement from the subcommittee.

"After we got through explaining the emergency status of our request, one of the members suggested that the matter be made an emergency appropriation. He said he thought that we couldn't wait for the appropriation to be included in the regular bill."

"We received faster action than we ever anticipated," Livingston said. "We see now that if we hadn't gone to Washington, we might have received no action whatsoever on the request.

Livingston said that Representative Howard Buffet—who attended the subcommittee meeting with them—and Senators Kenneth Wherry and Hugh Butler have promised to back the appropriation request through the two Houses of Congress.

The Nebraska Citians explained to the subcommittee that when the United States engineers constructed the high levee on the east side of the river, the channel was narrowed to force flood water to this side of the river, threatening the utilities power plant and substation.

They explained that the proposed seawall around the utilities was included in the original plans of the engineers, but that it was stalemated when the engineer appropriations were sliced last year.

The proposed levee would include a 340-foot earthen wall north of the power plant, a 300-foot concrete wall in front of the plant and a 250-foot earthen wall south of the plant.

The new wall also would protect the proposed new $310,000 addition to the generating plant, which will be constructed immediately east of the present plant.

The Citians explained to the subcommittee that a flood on the Missouri would inundate the two million dollar utilities property, shut off the power supply of Nebraska City and 10 neighboring communities, and would leave Nebraska City without water.

Gangel explained to the Congressmen that the plant is "within spitting distance" of the river and showed photographs of the facilities on the river front.

He told how Nebraska Citians had to throw up a temporary dike in front of the plant in 1949 to prevent flooding of the power plant.

Mr. and Mrs. Gangel and Mr. and Mrs. James will return to Nebraska City early this week.

MONONGAHELA RIVER, W. VA.

Senator KILGORE. I notice Congressman Staggers of West Virginia, in whose district this is. I wonder if Congressman Staggers has anything to say at this time?

STATEMENT OF HON. HARLEY O. STAGGERS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WEST VIRGINIA

HILDEBRAND LOCK AND DAM, W. VA.

Representative STAGGERS. Mr. Chairman and members of the committee, my name is Harley O. Staggers, Representative from the Second Congressional District of West Virginia, in which the Hildebrand locks are now located, or will be located. I have just a brief statement I would like to make in behalf of this project.

Chairman MCKELLAR. Would you mind putting your written statement in the record and giving us the high lights?

Representative STAGGERS. Senator, I have no written statement. I will give you the high lights.

DEFENSE NEED

First, I believe it is very essential to the defense program of the Nation at the present time inasmuch as it will allow, if we get into any further emergency, the coal to flow to the steel mills in a way it cannot do now under present circumstances because we do not have the cars to supply the railroads and we do not have the railroad in several of these coal mines.

Looking at the record, there are 25 mines above these locks which would be affected by the dams and locks, and the potential of these 25 mines probably has been given to you, running something over 15,000,000 tons yearly of coal which could be gotten out if these locks are enlarged.

I think it is to the interest of the public welfare that they be completed. We have expended a lot of money on the lower locks and the completion and enlarging of the upper locks will be comparatively small in comparison with what has been spent. It will keep many miners working and will keep the coal flowing to the industry. I think it is an investment in America's future, not an outlay or expenditure of money. I think it is an investment for the future. I think it is our responsibility as Congressmen to look into the future and not just to look at the present outlay.

I think we have been shortsighted on many things and especially on our ore products. I believe, as the State geologist said, if the Iranian crisis keeps on, we are going to have to turn to hydrogenation of coal and also synthetic liquid fuels because, as you Senators know, 98 percent of our fuel reserve is in coal.

That is the statement I have and I believe that this Congress, economy minded or otherwise, would be wise in seeing that these plans are completed and this work done. It is a very small outlay in comparison with the returns that will come.

Chairman MCKELLAR. I judge from what you say that you are in favor of our looking after the best interests of our own country first?

Representative STAGGERS. That is right, sir. That is what I think, and I think the investment should be made here. It is small in comparison with what we might make someplace else.

Chairman MCKELLAR. If there are no further questions, we thank you for your appearance.

Representative STAGGERS. Thank you, Mr. Chairman.

Senator KILGORE. The next witness is Thomas E. Millsop, vice president of National Steel Corp., and president of Weirton Steel Co., and National Mines Corp.

Senator NEELY. Mr. Millsop is the president of probably the most modern and one of the greatest steel mills in the world, located at Weirton, W. Va. He employs approximately 10,000 men the year around working every day in the week.

STATEMENT OF THOMAS E. MILLSOP, VICE PRESIDENT OF NATIONAL STEEL CORP., PRESIDENT OF WEIRTON STEEL CO., AND NATIONAL MINES CORP.

NAVIGATION FACILITIES, MONONGAHELA, W. VA.

Mr. MILLSOP. Your first figure, Senator, I say is correct. The second figure is wrong; it is 15,000 employees.

Senator NEELY. You have 5,000 more employees than you had during the last election.

Mr. MILLSOP. That is, only 10,000 voted for you in the last election.

Senator KILGORE. Mr. Millsop, could you file your prepared statement and then high light it, telling us particularly the effect of these locks on the steel industry, what we call the upper Ohio area?

Chairman MCKELLAR. Without objection, the statement will be placed in the record.

(The statement referred to is as follows:)

STATEMENT OF THOMAS E. MILLSOP, VICE PRESIDENT OF NATIONAL STEEL CORP. AND PRESIDENT OF WEIRTON STEEL CO. AND NATIONAL MINES CORP.

Mr. Chairman and gentlemen of the committee, it is my desire to bring your attention to the urgent and immediate need for additional metallurgical coal to sustain and expand the production of steel for this country. While this type of coal is required by all producers of steel, I feel that I can speak with particular knowledge of the situation with respect to the company with which I work; our problem is typical of the general problem faced by steel producers if the Nation-wide demand for steel is to be substantially met.

This problem of obtaining coal for expanded steel production is directly related to navigation facilities on the Monongahela River.

Speaking now of the producer, with which I am most familiar, I will state that—

National Steel Corp., on the basis of ingot capacity, is the fifth largest producer of iron and steel products in the United States. It is an integrated producer, which means that, in addition to the ownership of iron- and steel-producing facilities, National Steel has its own sources of supply of essential raw materials, such as iron ore and metallurgical coal, and it also operates facilities for transporting these constituents of steel to its manufacturing plants.

It directly, or through subsidiaries, operates three important producing units, a blast-furnace plant at Buffalo, an iron and steel manufacturing plant at Detroit, and a similar plant at Weirton, W. Va. The third operation comes under my supervision, as president of the Weirton Steel Co.; it consists of coke ovens, blast furnaces, Bessemer and open-hearth facilities, and finishing mills at Weirton and additional finishing facilities across the river at Steubenville.

Ohio. Our operations at Weirton and Steubenville constitute a completely integrated iron and steel producing unit.

Everyone realizes that iron ore is a basic raw material in the production of steel but few people seem to appreciate that coal is just as essential. Every ton of steel needs about 1.45 tons of coal, as against 1.31 tons of iron ore, for its production. Moreover—and this is most important—it is not just coal that we need; to make steel we must have coking coal, or, more accurately, metallurgical coal. Ordinary coal is plentiful, but coal of metallurgical quality is not.

The steel plants in Pennsylvania, Maryland, and West Virginia and in the Cleveland-Youngstown district of Ohio obtain almost all of their coking coal from one source of supply, and that is the seams of coal located on the Allegheny and Monongahela Rivers upriver from Pittsburgh, Pa. Of these beds of coal, the so-called Pittsburgh seam in Fayette and Greene Counties (which the Monongahela River divides) in Pennsylvania has been by far the more important. At one time, this source of supply appeared to be inexhaustible, but the unprecedented demands of World War II have so depleted the available reserves of suitable coking coal in Pennsylvania that we must turn to new fields, and not merely for future development, but for immediate use. In this connection, I would like to refer to the report submitted to the Committee on Public Works of the Senate, by the Chief of Engineers, on May 31, 1949, in which it was said:

"One of the vital requirements of the steel industry is a supply of coal with a sulfur content of 1.25 percent or less which is suitable for carbonization to metallurgical coke. Such low-sulfur coal is obtained by selective mining of low-sulfur beds, or by admixing medium-sulfur coal of about 2 percent and low-sulfur coal of from 0.5 to 1 percent sulfur content. * * * The Pittsburgh seam in the Pittsburgh, Connellsville, Uniontown, and Brownsville districts has been the chief source of supply of metallurgical coal in the Monongahela-upper Ohio River Valley. The reserve of low-sulfur coal in these districts is decreasing through extensive use. Additional sources of metallurgical coal favorably located with respect to the iron and steel industry in the Pittsburgh-Wheeling area are becoming increasingly important. It is expected that the upriver low-sulfur coals will be more extensively developed in the immediate future."

It should be noted that the report of the Army engineers refers to the immediate future. Although this reference was made about two short years ago, the situation today is much more critical than the author of the report could ever have imagined. We are once more faced with the exorbitant demands on coal made by defense preparations in steel and we have a new problem to face in the unprecedented expansion of steel-making facilities in an area which draws upon western Pennsylvania sources of metallurgical coal.

We now use at Weirton about 1,980,000 tons of coking coal a year. This is sufficient to fill about 2,000 standard 1,000-ton coal barges, if (and I emphasize the "if" for reasons which I will develop at a later point) we could load all our barges to capacity. Moreover, this is only part of the picture. To meet the requirements of the defense program, we are now building a fourth blast furnace at Weirton, which will require an additional 715,400 tons of coking coal a year to produce 511,000 tons of pig iron which, with the addition of the usual quantities of scrap, will provide about 964,100 tons of steel. The additional coal tonnage, to use a previous example, would fill 715 standard coal barges, if (and again I emphasize the "if") they could be loaded to capacity.

I trust you will excuse me if at this point I digress to speak with some pride of the investments which our company is making in the expansion for defense program. This fourth blast furnace will require substantial expenditures, but they will be only a fraction of our total expansion investment. National Steel Corp. at Weirton, Buffalo, Detroit, and elsewhere expects to spend no less than $150,000,000 to increase its output of essential iron and steel products. A large part of this, of course, is covered by necessity certificates, but that should not detract from the fact that, despite absurdly high construction costs, we are willing to make a new investment in plant and equipment equal to more than one-third of our total investment up to this time.

Returning to our immediate problem, we have indicated our own increased requirements of coking coal in the area. We also know that other steel producers are planning to build nine additional furnaces and to enlarge three existing facilities, which will draw upon western Pennsylvania for all or substantially all of their metallurgical coal. The increased coal demand of these new and enlarged furnaces will amount to 6,550,000 tons per year, to produce 4,583,500 tons of iron, and of the additional coal used in these furnaces about 2,610,000 tons will move by water on the Ohio River system. The sum and substance of all

these figures is this: When the defense expansion program is completed, somewhere in the Pittsburgh area, the industry, including ourselves, will have to find 7,265,400 tons of coking coal a year, of which 3,325,400 tons will move by water.

The logical place to locate this additional coal, and the coking coal which will replace depleted supplies in Fayette and Greene Counties, Pa., is in West Virginia, which apparently provides almost unlimited sources of metallurgical fuel. On this point the Army engineers' report, to which I have already referred, says:

"The coal reserves are ample to sustain a much greater rate than the current production rate indefinitely. The lack of adequate navigation facilities on the upper river has retarded the shipment of coal from the contiguous area."

Although many steel producers have been procuring coking coal from the West Virginia mines along the upper Monongahela, we believe that we have pioneered the development of the area by the establishment of our Weirton mine above Morgantown, W. Va. We have invested over $7,000,000 in what we consider the world's most modern mining operation. A very unique part of the project is a tunnel through which we carry coal from our cleaning plant to the Monongahela River on a continuous belt which is 11,200 feet long and which is probably the longest coal conveyor belt in the world.

Other steel producers will follow suit, I am sure, and in the very near future because, as I have already indicated, the exhaustion of coking-coal reserves on the lower Monongahela River is no longer a distant threat. However, there is one serious handicap against this development and against the immediate, full-scale use of the upper Monongahela supplies of metallurgical coal, and that is the dangerously obsolete navigation facilities on the higher reaches of the river.

The steel industry must have the means of transporting its coal, in bulk, in the most economical manner. The vast quantities of coal which are used in western Pennsylvania, northern West Virginia, and eastern Ohio can be moved only by water in huge 1,000-ton barges, at least six to a tow.

At the present time there are not enough barges and towboats to move the coal which the steel industry needs and, although the water carriers and the coal and steel companies are investing heavily in new barges and towing equipment, these added facilities will be barely sufficient to meet the increased requirements of the steel-expansion program and will not provide any better margin of safety.

Navigation facilities on the Monongahela have been generally adequate up to a point near the West Virginia-Pennsylvania division line. The dams have served to provide a 9-foot channel, which will accommodate fully loaded 1,000-ton barges and powerful towing equipment. The locks are long enough to handle the standard six-barge tow in a single lockage.

Above the West Virginia line, however, the situation has been different. The locks are inefficient and of a size which requires four separate lockages to handle the standard six-barge tow. The channel is only 7 feet, which means that the standard coal barge can be loaded to only 70 percent of capacity under good river conditions and 60 percent of capacity when conditions are unfavorable. To this I may add that these obsolete locks are in very poor physical condition and involve undue navigational hazards.

On these points, the report of the Chief of Engineers, which I have quoted, has this to say:

"These locks accommodate only two barges of the usual dimensions, 26 by 175 feet, or a towboat and one such barge. Thus a small tow of only two barges and towboat requires two lockages and the six-barge tow requires four lockages at each of the locks. Guide walls with lengths of only 80 to 175 feet are available, which add to the difficulty of breaking and reassembling tows. At locks 11, 13, and 15, inclusive, where the upper guide walls do not extend beyond the guard walls, protection for down-bound tows entering the locks is not afforded. A serious increase in accidents at the locks has accompanied the increase in traffic during recent years. Although most have been of a minor nature involving damage to concrete walls and gate timbers, there is an ever-present danger of serious damage resulting from a loaded tow colliding with a lock wall already weakened by age.

* * * * * * *

"The lower-river navigation facilities provide for a minimum controlling depth of 10 feet on lock sills and 9 feet in the channel from the mouth of the river to shoals near the head of pool 8. The upper-river navigation facilities provide for a minimum depth of only 7 feet on lock sills and in the channel from the shoals of pool 8 to the head of the river.

"The capacity of the 26-by-175-foot standard coal barge is 1,000 short tons at 8.8-foot draft and 900 short tons for an 8-foot draft, which is the draft commonly used on the lower river. The controlling depth on the upper river permits a loading of coal barges at only 600 tons which penalizes the economy of the haul throughout its entire length."

The Congress has made a good start in the direction of eliminating these formidable bottlenecks in upriver navigation. A program to substitute three modern locks and dams for the six obsolete structures, known as locks 10 to 15 (reaching from the West Virginia line to the head of navigation at Fairmont) has been authorized by the Congress. The first step in the program has been taken and substantially completed; locks 10 and 11, near Morgantown, have been replaced by the new Morgantown locks and dam, a very modern and efficient facility.

But the program as a whole is almost worthless until it is completed. It does no good to have a deeper channel at Morgantown or facilities which will handle a standard tow of six fully laden barges, if the tows must first traverse the obsolete upriver facilities.

To demonstrate the difference between the modern Morgantown facilities and the next lock and dam, No. 12, we have had photographs taken of both facilities from the air. I would like the committee's permission to introduce them in the record. I would also like to present companion photos, in which we have sketched the movement of a standard six-barge tow. A casual comparison of both sets of photographs will immediately demonstrate the difference in efficiency and economy. And remember, gentlemen, the six barges you see in the modern structure can carry 6,000 tons of coal, whereas these same barges in lock 12 are limited to about 3,000 tons. When you expect to move about 1,000,000 tons a year, which is our immediate goal, the difference in loading capacity becomes a very costly item. I shudder to think of the difference this will make when we reach our hoped-for production of 1,600,000 tons a year.

In World War II, practically all of our production was devoted to the war effort. Today, history seems to be repeating itself. In June 1951, 63.4 percent of our production at Weirton was shipped on governmental ratings and directives. This does not include our tin-plate production which was not on allocation but which we know goes into military and essential civilian uses. Moreover, we expect that the requirements of the defense program will constantly increase; in anticipation, as I have indicated, we are making the huge investments required to increase our pig-iron output at Weirton by about 511,000 tons a year.

Other shippers of coal and other commodities on the upper Monongahela are also engaged in defense production. I am quite sure that their efforts to aid the defense program will be substantially assisted, as ours will be, if the obstacles to full production posed by obsolete navigational facilities are eliminated.

We are told that no provision has been made for these needed facilities because they represent a new project and new civilian projects are to be subordinated to the defense program. The conclusive answer is that it is not a new project, but the continuation of a program already begun, and, most important, it is directly related to the defense effort.

I can think of no better way to close my statement than by reference once again to the report of the Chief of Engineers, in which it is said:

"The proposed improvement of the upper Monongahela River would provide a modern water-transportation facility for the important Fairmount coal-producing district in relation to down-river industrial areas. It would place the upper river on a par with the lower river. The limited navigation facilities available on the upper river have restricted the volume of commerce on the river. The commerce on the upper river has never attained a volume proportional to the valley resources such as has been obtained on the lower river for a long period. favorable access to the up-river reserve of metallurgical coal."

* * * * * * * *

"The desired improvement would benefit not only the upper-river region but also the down river Pittsburgh-Wheeling steel-production area by providing favorable access to the up-river reserves of metallurgical coal."

It is my belief that the continuation of the project is essential to the defense program and that the construction of the next lock and dam at Hildebrand should be undertaken as promptly as possible.

IMPORTANCE OF COAL TRANSPORTATION

Mr. MILLSOP. I will file this statement, gentlemen, and just comment on it briefly.

There are a few points I think it would be well to bring to your attention. It requires somebody familiar with the practical matters of operating a steel plant to present them to you.

In the first place, everybody realizes that we require a lot of iron ore to make a ton of steel. But there is not as great a realization as to what our situation is on coal. The actual facts of the matter are that to make a ton of steel we use 1.31 tons of iron ore but we require 1.45 tons of coal to refine it. In other words, we actually require more coal to produce a ton of steel than we do of iron ore itself.

Senator KILGORE. That 1.45 tons of coal is what you use in the furnaces for coke?

Mr. MILLSOP. That is what we use to make coke.

Senator KILGORE. That does not include the coal consumed for the production of power at the plant?

Mr. MILLSOP. That is made from what we term "steam" coal. This is coking coal. Steam coal can be obtained from other sources; coking coal cannot. This is the only source available.

In our own case, we are using 1,980,000 tons of coking coal a year and to transport that, if you could use the river to its maximum benefit would require 2,000 of what we term standard 1,000-ton coal barges.

Senator NEELY. Do you know how many railroad cars would be required to carry that coal?

Mr. MILLSOP. To give you a rough estimate, Senator, I would say to transport in round figures 2,000,000 tons of coal, if you divide that by 50 tons to a car, you have the number of carloads that would be involved. There are not that many freight cars.

Chairman MCKELLAR. On the Mississippi River the transportation by barges of heavy products such as oil has been of immense benefit to our people on the river, both north and south of Memphis, where I live.

Mr. MILLSOP. That is right. We ship hundreds of thousands of tons of finished steel down the river into the South. As a matter of fact, we do a large business in your State.

In our own case, at Weirton, as I said, we are currently using approximately 2,000,000 tons of coal a year. With the expansion program that we are now working on, we will require an additional three-quarters of a million tons a year, 2¾ million tons in our own case.

ADDITIONAL COAL TONNAGE TO INCREASE IRON AND STEEL PRODUCTION

If it is of interest to you, that additional tonnage of coal will permit us to produce, at Weirton, an additional 500,000 tons of pig iron a year, and with the addition of normal amounts of scrap, and so forth, we will increase our production of steel itself in round figures by 1 million tons a year.

That is only our own situation. In the Pittsburgh district construction is now under way that involves nine additional blast furnaces and the enlarging of some that now exist. When this program is com-

pleted, which will be within the next 18 months to 2 years, the coal demand in that area will be increased by 6½ million tons of coal a year.

Senator KILGORE. What is the present consumption?

Mr. MILLSOP. The present consumption in that area, Senator?

Senator KILGORE. I mean in steel only.

Mr. MILLSOP. In steel, of metallurgical coal?

To answer your question intelligently, I might state to you that the Pittsburgh district, which is what we are discussing, produced in round figures about 35 percent of the total steel production of the United States and the total steel production of the United States now is currently running at the rate of a little in excess of 100 million tons, so the Pittsburgh area producing 35 million tons of that and using in round figures 1¾ tons of coal, would roughly use about 60 million to 70 million tons.

Senator NEELY. Mr. Millsop, to what extent does that 35 percent of the Nation's steel production depend upon the coal that lies along the Monongahela River between Fairmont and the Pennsylvania line?

Mr. MILLSOP. Senator, today we are the only steel company operating a large mine above Morgantown, as you know. We opened the mine there about a year ago. That mine will produce about 1½ million tons of coal a year. All of the coal for the purpose we are talking about, metallurgical coal and bituminous coal, for the Pittsburgh district, is now coming from the lower reaches of the Monongahela, and it is being mined out, and we have to go farther up the river. There is no place else to go; that is the end of it.

The amount of it that is coming from the lower river today is going down, and the amount that will have to come from the upper river is going up.

MONONGAHELA RIVER AREA ONLY KNOWN SOURCE OF COAL FOR IRON AND STEEL PRODUCTION

Senator NEELY. Do you mean by that that the only available source for coal for these iron and steel purposes in the United States is along the Monongahela River?

Mr. MILLSOP. That is correct. That is the only place it is.

Chairman MCKELLAR. I think you said Pittsburgh or the Pittsburgh area produced about 35 percent of all the steel in the United States.

Mr. MILLSOP. That is correct.

Chairman MCKELLAR. There is one thing about serving on this committee, you learn a great many things.

Mr. MILLSOP. As a matter of fact, that particular district we are talking about was described by the military, I believe, as the "arsenal of democracy." Is that not correct?

Colonel POTTER. That is a good name, sir.

Senator KILGORE. In West Virginia, Ohio, and Pennsylvania, in a close little area around Pittsburgh?

Mr. MILLSOP. That is right, in a radius of approximately 100 miles of Pittsburgh that concentration exists. That concentration was created there on account of this coal. That is what put it there.

Senator KILGORE. It was created there because of this coal and because also that was the nearest place they could get their good coal to the source of ore.

Mr. MILLSOP. You have to have iron ore and you have to have coal and you have to have water. Without those three you have no steel.

Just passing I might say, for instance, in the matter of water, just to show you how important this water is, that we are talking about, we use approximately 15 tons of water to make one ton of steel.

Senator ROBERTSON. I have tried to indicate this morning, even possibly at the expense of having some feel that maybe I was not adequately sympathetic to good projects, some of the problems that confront us.

Chairman MCKELLAR. I hope the Senator did not feel that anything I said indicates that.

Senator ROBERTSON. The distinguished chairman said, in effect, that charity begins at home, and that we might as well be spending money to rehabilitate our own people here at home as an assortment of people in foreign countries.

Now, I want to ask Mr. Millsop this question. In the budget estimate for foreign aid of over $8 billion, we have about $1,500,000,000 for rehabilitation purposes, the remainder is for strictly military purposes. For the sake of argument, assume that we decide to save that $1,500,000,000, not spend it; which would you prefer, to have the $1,500,000,000 applied to a reduction in your corporate and personal income taxes or the $1,500,000,000 spent on the $6 billion of power plants, flood-control projects, river-and-harbor work, that the Congress has authorized?

Mr. MILLSOP. I will try to answer your question, Senator.

Senator ROBERTSON. You understand we cannot do both?

Mr. MILLSOP. I think I understand your question properly, and before I can answer you, I will have to tell you the situation we are in, which was brought about by no action of ours.

We are importuned by the same Government we are talking about to increase these same steel-production facilities. In the case of our own company, not in the steel industry but in the case of our own company, we are currently on a program of expenditures involving between $150 million and $160 million. It is true we have certificates of necessity to charge some of that off, but the facts are we are providing every dollar ourselves. There are no Government funds mixed up.

Senator ROBERTSON. But you get an average of 50 percent back in depreciation allowance.

Mr. MILLSOP. It will be somewhere between 50 and 75 percent. I grant you, we are getting that, but the demand for this steel is pushing us into this program and we cannot make the steel without raw material to make it out of.

Senator ROBERTSON. Do you mean to say you do not get enough coal, or that you do not get it as cheaply as you would like to get it?

RAILROAD TRANSPORTATION NOT AVAILABLE IN MONONGAHELA RIVER AREA

Mr. MILLSOP. It is both. I am greatly interested in economy in my country and my company both.

Now, you do not have the transportation facilities to haul this coal by rail. The other thing about it is this: these tremendous large steel mills that have been built down there have been built over a period of years, and in the construction of them, if they are on these rivers, they have been laid out to handle coal by water and this coal handling sys-

tem is an integral part of the mill, it is all conveyor system, systems of that sort. It takes coal out of the barge.

Senator ROBERTSON. Was it Mr. Ernest Weir who wrote the fine speech on Mr. Jones Learns About Taxes?

Mr. MILLSOP. That is correct.

Senator ROBERTSON. He is president of your company?

Mr. MILLSOP. He is chairman of the board; I am president of it.

Senator ROBERTSON. It was a fine speech.

Mr. MILLSOP. I think it was.

Senator ROBERTSON. He is a very good speaker. He has some mighty sound views on taxes and economy.

Mr. MILLSOP. He has mighty sound views on a lot of things, Senator. He has built quite a company with his views.

Senator KILGORE. I have a question there. I know your set-up at Weirton, Mr. Millsop. As a matter of fact, you are on a branch of the Pennsylvania that runs up that valley and that is your only rail source, it is a single track road, coming up from Wheeling?

Mr. MILLSOP. That is correct.

Senator KILGORE. That is your only way of getting this coal other than by water?

Mr. MILLSOP. That is correct.

Senator KILGORE. Does that not apply to practically every mill in that area?

Mr. MILLSOP. It is the same thing. At Weirton, we ship a couple hundred thousand tons of steel a month. To ship a ton of steel out, we have to bring 5 tons of something in. So what it boils down to is that we handle in that little valley between the river and the railroad somewhere in the neighborhood of 1,200,000 tons of freight.

Senator KILGORE. That does not include the big pottery industry around Chester and above you and the brick works and other clay works in that valley.

Senator ROBERTSON. The Pennsylvania is a single track?

Mr. MILLSOP. It is not a single track; it is a single railroad. It is the St. Louis division of the Pennsylvania Railroad.

Chairman MCKELLAR. Mr. Millsop, would the building of such barge locks have a considerable effect on freight rates, too?

Mr. MILLSOP. No.

Chairman MCKELLAR. It would not?

Mr. MILLSOP. I do not see where it would. We are expanding the economy here, and we are producing more steel, we are going to have freight to carry whether we carry it by rail or water. The conditions that determine the freight rates are the natural competitive conditions that exist between trucks, barges, and rail. They will determine the prices of transportation.

Senator KILGORE. Is it not a fact they are hauling coal in trucks to get it to the water?

Mr. MILLSOP. Yes; they haul it for miles.

Senator KILGORE. To build a 1,000-ton barge does not cost any more than to build one gondola, does it?

Mr. MILLSOP. I do not think it does. A 1,000-ton steel barge costs $14,000, I would say. A freight car I think costs maybe about $9,000 or $10,000.

Senator KILGORE. You can haul 200 freight car loads of steel in one barge?

Mr. MILLSOP. That is right.

Chairman MCKELLAR. Do you have anything else?

Mr. MILLSOP. Yes, there is one other point I would like to make.

I have heard a lot of discussion here about these dams. I have some photographs here that have just been put in at Morgantown and a photograph of the dams they are talking about eliminating and replacing, with the relative barges that each of them can hold and each of them can handle. I would like you gentlemen to look at them and if you care to ask me any questions about them, I will try to answer them.

COMPARISON OF RAIL COSTS OF COAL TRANSPORTATION

Senator NEELY. Mr. Millsop, before you address yourself to these photographs, could you make any estimate to the committee of the difference in cost of your steel production at Weirton if you had to transport all of this coal from your Monongalia County mines to Weirton by rail instead of transporting it by water?

Mr. MILLSOP. About a half million dollars a month.

Senator ROBERTSON. It takes about 2 tons of coal to make 1 ton of steel?

Mr. MILLSOP. On this particular type of coal we are talking about, it is 1.45 tons.

Senator ROBERTSON. How much difference would there be in freight on a ton of finished steel between hauling it on a barge and hauling it via the Pennsylvania Railroad?

Mr. MILLSOP. About $2.

Senator ROBERTSON. And it takes 1.45 tons of this particular coal to make 1 ton of steel?

Mr. MILLSOP. Yes.

Senator ROBERTSON. This must be pretty good coking coal.

Mr. MILLSOP. It is good coking coal. I will say this, Senator, it is not as good a coking coal as we have enjoyed using in some years past, but the coal we have enjoyed using no longer exists, so this is the best there is. So relatively it is good.

Senator ROBERTSON. That would be close to $3 a ton on your steel.

Senator KILGORE. What are you using now, Freeport?

Mr. MILLSOP. We operate one mine at Brownsville and another one up at Morgantown, mining about 1,500,000 tons of coal. We blend the two of them together.

There is another thing about this coal problem, and it may be interesting to you, that metallurgical coal also is not metallurgical coal. You can take coal over here and coal over there and put them together; you cannot make coke out of this because they do not blend. The geologist over here will give you a dissertation on it.

Senator KILGORE. Also on your other coal, your fuel coal, you have an increased freight rate?

Mr. MILLSOP. In our case at Weirton, our fuel coal comes within a radius of 5 miles of the rail. It is no problem to us, but it is a problem to other steel companies who are not fortunate to have this steam coal beside them.

In a steel mill, you use three kinds of coal—coking coal, gas coal, and steam coal—each of which is entirely different.

This is the new lock and dam that has been built. Pictured in this, which is an aerial photograph, is what we consider a standard tow on

the river, that is, 6,000-ton barges for coal. They come in here and away they go.

Now, this [indicating] is the old locks. In these locks, we can only put two barges at a time. We start out with six barges, we come down to here and we detach two barges, lock them through here, go back and get two more, and lock them through, and then get two more and lock them through.

Chairman McKellar. How do you pull them through the locks?

Mr. Millsop. The current will take them through the locks.

Senator Ecton. Are they working on the locks now?

Mr. Millsop. One lock has been completed. Morgantown has been completed. But so far as its effectiveness is concerned, it does not mean anything, because you have the small ones above it.

Colonel Potter. I might say, Senator Ecton, that where you have a river with the older type of hand-operated or small structures, when the time comes as it has in this river to replace them, you replace those that are engineeringly unsound first and then gradually replace them all until you have a new river. Depending on the traffic, that takes more or fewer years. The traffic on this upper river has increased over 10 times since 1927.

Senator Ecton. How long has it been since work was completed on this, or is this a continuation?

Colonel Potter. There was no work done on the Monongahela to any extent until we started the Morgantown lock right after the war ended, I believe, and also lock No. 2 at Pittsburgh at about the same time.

Mr. Millsop. This is the Morgantown lock here.

Colonel Potter. Morgantown is finished and lock No. 2 will be finished in about a year, sir, if these appropriations come through.

Senator Knowland. Mr. Chairman, might I ask a procedural question as to the number of additional witnesses that Senator Kilgore has?

Senator Kilgore. I have about 10, but I think they will only take 3 minutes apiece.

Senator Knowland. I have six or seven Members of the House who have to get back.

Senator Kilgore. My witnesses represent various groups that are interested in this picture and each one is capable of showing his own picture. I have one more on steel, a couple on coal, from the manufacturers and some from the labor group and some independent businessmen, but they all have promised me they will confine themselves to 2 or 3 minutes apiece.

Chairman McKellar. Have you finished, Mr. Millsop?

Mr. Millsop. Yes, Mr. Chairman.

Senator Stennis. Although this is not related directly to the point, you say you do have a lot of business in Tennessee?

Mr. Millsop. Yes.

Senator Stennis. How do you compete with those Birmingham, Ala., steel mills for steel business?

Mr. Millsop. We ship down the river by barge, and we ship by railroad or truck.

Senator Stennis. You have a thousand miles of transportation there. Do you absorb that difference? It costs you more to put your product there than it does the Birmingham mills?

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Mr. MILLSOP. Some places it does; some places it does not. We sell steel in Birmingham.

Senator STENNIS. That is what I am getting to.

Mr. MILLSOP. I say we sell it in Birmingham.

Senator STENNIS. What I am thinking about is that a Birmingham mill ought to undersell you in Birmingham.

Mr. MILLSOP. It is a matter of efficiency and everything of that sort that enters into the question there.

Chairman MCKELLAR. All right, Mr. Millsop, we are very much obliged to you.

Mr. MILLSOP. Thank you, Mr. Chairman.

Senator KILGORE. Mr. H. A. Bangert is here representing the Governor of West Virginia.

STATEMENT OF H. A. BANGERT, REPRESENTING HON. OKEY PATTESON, GOVERNOR OF THE STATE OF WEST VIRGINIA

UPPER MONONGAHELA RIVER LOCK AND DAM SYSTEM, WEST VIRGINIA

Mr. BANGERT. Mr. Chairman, I have a prepared statement. I am representing the Honorable Okey Patteson, the Governor of the State of West Virginia.

Chairman MCKELLAR. Do you wish to put your statement in the record?

Mr. BANGERT. Yes, sir.

Chairman MCKELLAR. Without objection that may be done.

(The statement referred to is as follows:)

STATEMENT OF H. A. BANGERT

I appear before this committee as a representative of the Honorable Okey Patteson, Governor of the State of West Virginia.

In addition to the information previously furnished on the Monongahela River project, I am submitting some information on this matter which seriously views this project from a national defense angle.

Our industrial growth in recent years has been rapid along the Ohio and the Monongahela Rivers, particularly the coal industry. On the lower Monongahela River, near the mouth in the Pittsburgh district, river improvements have for years kept pace with industrial expansion. More than 15,000,000 tons passed through lock and dam No. 2 on the Monongahela River near Pittsburgh in 1946, the latest available figures. A great part of this tonnage consisted of coal to feed the vital steel industry. With the improved locks and dams and 9-foot river depth in this area, the above tonnage was made possible.

While the lower Mononagahela River in the Pittsburgh area kept pace with expanding industry and brought prosperity to that district and security to the Nation, the upper Monongahela for the past 45 years remained unimproved, discouraging the expansion of industry and the opening of new coal fields in that area.

The River and Harbor Act of 1896 authorized the extension of the Monongahela lock and dam system upstream into West Virginia by the construction of locks and dams Nos. 10 to 15. This was the beginning of the lock and dam system on the upper Monongahela River in the State of West Virginia. These locks and dams were constructed during the period from 1897 to 1903 and have been in use to the limits of their capacities since then without any further improvement or modernization.

In spite of the lack of improvements on the upper Monongahela in West Virginia with its 1903 model locks and dams and shallow water, tonnage between Morgantown, W. Va., and Fairmount, W. Va., increased 2,000 percent during the period from 1938 to 1946. The coal from mines bordering almost the entire length of the Monongahela River has been transported by barge to the Pitts-

burgh area largely for consumption by the steel industry. In the early days, this coal movement originated from mines along the river near Pittsburgh which resulted in short hauls to the steel mills in the Pittsburgh vicinity. Now these mines have approached exhaustion. The steel and other industries have now shifted upstream into West Virginia from whence the future coal supply must come. This movement upstream into West Virginia for vital coal has been anticipated for some time. The Army engineers predicted more than 25 years ago in 1922 in a report made by them to Congress that this upstream shift would occur. At that time, the Army engineers were farsighted and in a statement to Congress said, "Eventually it will be necessary to go farther upstream or farther inland to obtain coal for river shipment. The prospect for rapid growth of commerce on the Monongahela River with the increased demand for coal from the upper river, now very little used, with almost certain increase in trade with the Ohio and Allegheny Valleys is very bright." So reads the Army engineers' forecast in 1922 and we see that the eventualities predicted in the engineers' report of 26 years ago have become the actualities of today.

However, more important than economic and industrial expansion is the matter of national security. Metallurgical coal is essential in making steel and wars cannot be fought without steel. The present fields now supplying the steel industry with metallurgical coal are being rapidly depleted. The steel industry is looking to the upper Monongahela area in West Virginia for metallurgical coal as evidenced by its activities in the West Virginia district. Today this area is one of the largest and best coal fields in the world and is practically unscratched, with an estimated 8,000,000,000 tons of coal in Monongalia and Marion Counties, W. Va., alone, with a conservative estimated coal life of more than 150 years. During these troublesome times of unsettled world affairs and conditions abroad, it is vital in the matter of national defense and security that the proposed improvements on the upper Monongahela be realized at the earliest possible date so that these river facilities, now obsolete and inadequate, may become an additional arm of transportation and aid to the railroads. Our water transportation facilities on the upper Monongahela River are lagging far behind our production facilities. Further, from the angle of national defense will be the need for large tonnages of coal for the synthetic production of oil and gasoline from coal. In 1944 Congress passed the Synthetic Liquid Fuels Act appropriating approximately $30,000,000 for research and development work. Pilot and demonstration plants have been erected and laboratory and field tests are being made by the Government at Morgantown, W. Va., and elsewhere.

Although at this time we are not confronted with any known shortage of petroleum, we must, however, from the military standpoint, be prepared as we cannot depend on oil concessions in foreign lands in time of war as the risks would be too great to rely on such sources. In time of war, this country cannot be faced with the risk of importing oil but must be prepared if necessary to produce synthetic oil and gasoline from domestic coal. There is always the danger that the United States will depend upon import until the supply problem has become critical. Recent experiments in industrial and governmental synthetic fuels research have shown conclusively that our liquid fuel supplies do not depend entirely on petroleum but can be supplemented from our much larger reserves of coal in the Monongahela River section where, including a number of counties, approximately 1,000 years of coal are available. These statistics may be obtained in detail from Dr. Paul Price, State geologist, at the University of West Virginia in Morgantown, W. Va.

On May 9, 1949, Secretary of the Interior J. A. Krug made a statement to the effect that "Liquid fuels can be made out of coal at a price not too far above oil prices." Further, in his speech, Mr. Krug stated on May 9, 1949, "The vast coal deposits of the Nation can now be accepted as part of our liquid fuel reserve, thus enormously expanding our known reserves of liquid fuel."

In the event this country is confronted with the necessity of resorting to synthetic fuels, it is apparent that the billions of tons of coal available along the upper Monongahela River will of necessity be used for this purpose.

The New York Daily Times, under date of September 12, 1948, made the following statement:

"The United States is on the threshold of a profound chemical revolution. The next 10 years, or 15, will see the rise of a mass of new industries which will free us from dependence on foreign sources of oil. Gasoline will be produced from coal, air, and water on a scale so huge that it will dwarf even the giant synthetic rubber industry born in desperation during Workl War II."

I am giving you the above information based upon facts which have come to my attention because I believe that the Monongahela River project is a vital defense arm for our country.

As a closing remark, I would like to state further that the participation of Germany in World War II would have been of short duration had it not been for her synthetic fuels.

MONONGAHELA RIVER VITAL LINK IN TRANSPORTATION SYSTEM

Mr. BANGERT. I would like to call attention to the fact that the Monongahela River, which is one of the most vital links in our inland water system, perhaps one of the busiest rivers in the world, with more than 30 million tons a year passing over it, handles more tonnage than the Panama Canal.

Chairman MCKELLAR. It handles more tonnage than the Panama Canal?

Mr. BANGERT. More tonnage than the Panama Canal.

Colonel POTTER. That is right, sir.

Chairman MCKELLAR. That is a very interesting fact.

Mr. BANGERT. So it becomes of some interest nationaly besides the local interest.

This river is formed near Fairmont, W. Va., by the junction of the Tygart River and the West Fork River. They join a mile or so above Fairmont, W. Va. They travel in a northerly direction to Pittsburgh, Pa., refered to as the arsenal of democracy during the last world war and as Mr. Millsop has told you, producing 35 percent of the steel in the United States.

Incidentally, I might state that your beautiful Potomac River here comes from the watersheds of West Virginia and the water, I think you drink tonight, will be West Virginia water. Am I correct about that?

My good friend, Senator Neely here, has stated to you that the national Rivers and Harbors Congress with which this committee is familiar, has placed the upper Monongahela River project as number one in the the number one classification, which means that it hits the entire list of river projects in the United States. This Rivers and Harbors Congress has stated this is a sound project "and should be constructed in the public interest."

Now, this improvement of the upper Monongahela River is not a project to be constructed in anticipation of future commerce. The commerce is already there.

In 1941, 245,000 tons of coal moved through the old locks on the upper Monongahela River. In 1947, 1,532,000 tons of coal moved through these locks on the upper Monongahela River. From 1941 to 1946, 125 million tons of coal moved from two counties over this river on the upper Monongahela River.

Now, let me call your attention to lock No. 7, and an improved lock about 18 to 20 miles north of lock No. 10. In 1946, 2,501,365 tons of lockage passed through lock No. 7. Eighteen miles farther up the river, old lock No. 10, 305,000 tons passed through that lock. Yet, there was more coal above lock No. 10 than in the vicinity of lock No. 7. The answer to that is that the river facilities were not there, and these were figures that were taken from the lockmaster's records.

DEVELOPMENT OF RIVER LINKED WITH SYNTHETIC LIQUID FUELS PROGRAM

In 1944, this Congress passed a Synthetic Liquid Fuels Act, appropriating $30 million for research and development work in synthetic fuel. On May 9, 1949, the Secretary of the Interior Krug made this statement:

> Liquid fuels can be made out of coal at a price not too far above oil prices. * * * The vast coal deposits of the Nation can now be accepted as part of our liquid fuel reserve * * *.

The largest-producing coal State in the United States is the State of West Virginia. Whether it is going to cost more to produce synthetic fuel from coal than it is to produce petroleum is not the question in case of emergency. We will pay for it regardless of what it may cost if we need synthetic fuel. So the element of cost is not involved in the case of emergency. The huge coal reserves in West Virginia and the upper Monongahela River not suitable for metallurgical coal is a reserve in case you need that coal for synthetic fuel.

Now let me quote from the New York Daily Times of September 12, 1948:

> The United States is on the threshold of a profound chemical revolution. The next 10 years, or 15, will see the rise of a mass of new industries which will free us from dependence on foreign sources of oil. Gasoline will be produced from coal, air, and water on a scale so huge that it will dwarf even the giant synthetic rubber industry born in desperation during World War II.

The world's largest coal company is located in Pittsburgh, the Consolidation Coke Co. In the past, there has been talk of that company spending $120,000,000 for the purpose of synthetic fuel. That coal will come from West Virginia, naturally.

Not too long ago hearings were held before a House committee as to the need of governmental financial aid for the purpose of expediting this synthetic-fuel program. Improvements on the upper Monongahela River are imperative when viewed in the light of national security, so we will not be confronted with an emergency for which we are not prepared and it will not be a matter of too late and too little.

It is well to recall, I believe, and maybe I am not correct on this, but the participation of Germany in this last World War would have been of short duration had it not been for her synthetic fuels.

In view of this critical condition in Iran today, as has been brought out here, one-fourth of the world oil supply comes from that locality over there, and we do not know today what the answer may be to that and how soon we will be in this synthetic fuel product. Railroad facilities will be insufficent to handle this production, as Mr. Millsop just told you.

Within the past few weeks, as this committee knows, certain railroad companies have been issued certificates of necessity in order to encourage them to build more freight cars and they are allowed to depreciate their investment 75 percent within a 5-year period. That shows the dire need of freight cars.

TIME REQUIRED TO COMPLETE TOTAL PROJECT

If this committee—and I would like to emphasize this—should immediately at this time appropriate sufficient funds to complete this

whole job, it would be 3 or 4 years before it was done. Can we wait that long?

Now, there is one more matter I would like to call to the attention of the committee, and then I will be through.

The other day I quoted from a newspaper clipping here:

> Secretary of the Interior Chapman set up a committee of oil company officials today (July 3) to plan for possible emergency world-wide reorganization of American petroleum facilities. The action emphasized the threat the United States Government sees to the Western World's oil distribution and supply system from the difficulties in Iran. The committee, representing 19 American oil companies having operations overseas, will hold its first meeting Thursday at 10:30 a. m. at New York City.

Thank you, sir.

Senator KILGORE. The next witness is Mr. C. E. Conley. Mr. Conley is from the United Mine Workers, and knows the situation from the labor angle up there.

Chairman MCKELLAR. Mr. Conley, will you come forward?

Senator KILGORE. He is the president of Local 4040.

STATEMENT OF C. E. CONLEY, MORGANTOWN, W. VA., PRESIDENT OF LOCAL 4040, UNITED MINE WORKERS OF AMERICA

CONSTRUCTION OF UPPER MONONGAHELA LOCK AND DAM SYSTEM TO EXPAND COAL MINING

Mr. CONLEY. Mr. Chairman and gentlemen of the committee, my name is C. E. Conley. I am a resident of Morgantown, W. Va., and have been for 30 years. My occupation is that of a coal miner. I have followed this occupation for 35 years. I am a member of the United Mine Workers of America and have been during the entire period of my occupation as a coal miner. I have held the office of president and am now president of the local union 4040, mine committeeman, member of the relief committee, and also have represented my local union at various union conventions, and have held many other positions of honor in my local union.

There are at least six or seven mines now in operation between Morgantown and Fairmont, W. Va., on the Monongahela River that could load coal on the river if this river was provided with proper locks and dams.

There are thousands of acres of coal land that would be developed if proper locks and dams were provided by our Congress on this river between Morgantown and Fairmont.

Lock No. 10, which was recently constructed by the Government, was a noble beginning, but the backwater of this lock does not reach the large coal fields that should be provided with river transportation.

Our Government needs steel for the defense of this Nation; the steel mills need the coal to manufacture the steel; the coal operators need the demand for coal, which they would get if they had river transportation, and the coal miners of Monongahela and Marion Counties need the steady employment, which we would all get if one more lock, at least, were built on this river.

I have seen the good members of my union leave the employment of coal operations above lock No. 10 on this river and seek employment with coal operations below lock No. 10 simply because all the

operations below lock No. 10 on this river that had river transportation were working steady, but the coal operators above lock No. 10 were down because there was no demand for their coal, and when they are down the members of our union are down, only in a much worse condition because without steady employment under the high cost of living we suffer and our families suffer.

Our unions in this valley are not asking the Government for a hand-out when we ask our Government to construct another lock and dam above lock No. 10 on the Monongahela River so that the large coal fields in this county can be given river transportation for their product. We are only asking the Government to correct a condition which will provide steady employment for our members, and we feel sure, if our request is granted, the funds expended by the Government in correcting this condition will soon be repaid by the income taxes both the employers and the employees of the new coal operations will be paying back to the Government on the incomes of both.

LOCK NO. 10, UPPER MONONGAHELA RIVER

We have been faced with railroad strikes, which, of course, results in railroad-car shortages; we have been faced with railroad-car shortages in emergencies; and we have been faced with railroad-car shortages when there wasn't any emergencies, and now we are faced with high freight rates so that our employers can't market the coal we mine. These conditions call for action on the part of our Government, and all these troubles can be eliminated in our community by the construction of another lock and dam above lock No. 10 on the Monongahela River.

At the coal mine above lock No. 10 where I work, we just had a 10-day holiday. The week following our holiday we only had 1 day's work because the company for which I work had no coal orders, but the coal operations below lock No. 10 that had river transportation have been working steady.

Our local unions above this lock No. 10 naturally are losing its membership, and the coal operations below lock No. 10 cannot absorb our losses. We want our unions to grow and we want our members to be able to receive an income necessary for good living for their families, but this hope will not be ours to realize until the Government continues the improvement which it started 2 years ago on the upper Monongahela River.

I am not only speaking the voice of my local union, but I am speaking the voice of all other local unions of the United Mine Workers of America who are suffering the conditions I have described by the lack of another lock on the Monongahela River. Our only hope is for our present Congress to immediately start the correction of the hardships we have been, and are now, forced to bear.

Chairman McKellar. If there are no questions, we are very much obliged to you, Mr. Conley.

Mr. Conley. Thank you, Mr. Chairman.

Senator Kilgore. The next witness I would like to present is Mr. George S. Brackett, president of the Northern West Virginia Coal Association, and also Mr. Robert W. Hanna, president of the Virginia & Pittsburgh Coal & Coke Co., Fairmont, W. Va.

STATEMENT OF JOHN LAUGHLIN, JR., PITTSBURGH, PA., COUNSEL FOR NATIONAL STEEL CORP.

IMPROVEMENT OF LOCK AND DAM SYSTEM, UPPER MONONGAHELA RIVER, W. VA.

Mr. LAUGHLIN. My name is John Laughlin, Jr., of Pittsburgh. I am counsel for National Steel Corp. We had expected two gentlemen to appear here representing the coal industry, but because of the change in dates they were unable to appear. I would therefore like to offer for the consideration of the committee, a statement of D. L. McElroy, vice president of the Pittsburgh Consolidation Coal Co., and also Mr. Brackett's statement on behalf of the Northern West Virginia Coal Association. These statements, I might say, indicate generally the tonnages of coal involved and the tonnages that can be moved by river from this area.

Chairman MCKELLAR. Would you like to place those statements in the record?

Mr. LAUGHLIN. I would, Mr. Chairman.

Chairman MCKELLAR. Without objection, they will be put in the record.

(The statements referred to are as follows:)

STATEMENT OF D. L. MCELROY, VICE PRESIDENT, PITTSBURGH CONSOLIDATION COAL CO.

I wish to endorse the proposed improvements on the Monongahela River between Morgantown and Fairmont due to the benefits these improvements will bring to our coal-mining operations in that area, the men employed at these mines and the communities in which they are located. We have a total of eight operating coal mines that could be favorably affected by these improvements.

Five of these mines actually have their outlets on or adjacent to that part of the Monongahela River for which these improvements are proposed. These mines, with their daily capacity and coal reserves, are as follows:

Mine	Daily capacity	Reserve tons
Arkwright	12,000	60,000,000
Consol No. 93	4,000	25,000,000
Everettville	3,600	15,000,000
Booth	2,600	3,500,000
Consol No. 97	2,000	2,000,000

The Arkwright mine listed above already has river loading facilities which have recently been installed at considerable expense. The Consol No. 93 mine has river facilities which were installed in 1941 and which have been in continuous service since that time. This mine is located between Morgantown and Fairmont and is very much handicapped due to the fact that it is in the low pool section of the river, which allows us to get only one-half to two-thirds of full barge loading on all loadings at this point. Also, the speed of handling these barges through the locks in the upper stretches of the river is greatly reduced due to the small lock capacity. These features have handicapped river loading at this mine since 1941 and will continue to do so unless the proposed river improvements are made. The other three mines have no river loading facilities and although serious consideration has been given to installing such facilities, no action has been taken. One of the main draw-backs to the installation of these river loading facilities has been the pool conditions in this section of the river.

In addition to the above five mines, we have the following mines which are within 4 miles or less of the river on good roads, which would permit trucking

to river loading facilities. As a matter of fact, trucking has been done to the river from three of these mines in major volumes. These three mines are:

Mine	Daily capacity	Reserve tons
Brock	3,600	10,000,000
Pursglove No. 8	4,000	15,000,000
Pursglove No. 15	6,500	20,000,000

You will note that the total daily capacity of these eight mines is 38,300 tons of coal per day, with a total reserve of 150,500,000 tons of coal. It is entirely feasible to increase these reserves if improved river loading facilities were available to make production from these properties more desirable.

Under the present river conditions, about half of this tonnage is under a severe handicap so far as river loading is concerned. The river conditions at these mines has been the reason that river movement of coal has not been developed from them.

In addition to above mines of our company, there are two mines of the National Coal Co. and South Union Coal Co., which are located directly on the river between Morgantown and Fairmont.

STATEMENT ON BEHALF OF THE NORTHERN WEST VIRGINIA COAL ASSOCIATION, FAIRMONT, W. VA.

My name is George S. Brackett and I am president of the Northern West Virginia Coal Association, a voluntary association composed of 66 coal companies, operating 86 mines, in a territory comprising 22½ counties in the northern section of West Virginia, and which mines produce approximately 30 million tons of bituminous coal per year.

Bituminous coal is the most important commodity in point of value and volume as well, originating in Monongalia and Marion Counties of West Virginia, which moves on the Monongahela River.

Coal shipments on the Monongahela River from Monongalia County began in the year 1935, but we do not have the records of those earlier river shipments, except for the year 1937, when our records show that 427,242 tons were shipped.

In order to give you an idea as to the volume of coal tonnage which has been moving by river from Monongalia and Marion Counties over the past several years, we give you below our records of coal traffic moving by river beginning with the year 1941 (Monongalia and Marion Counties are the only counties in district No. 3, northern West Virginia, where bituminous coal is moved by river):

	Tons		*Tons*
1941	245,538	1946	779,189
1942	842,697	1947	1,519,320
1943	968,778	1948	1,320,158
1944	1,296,884	1949	[1] 533,000
1945	1,024,672	1950	[2] 1,567,000

[1] Strike year and 3-day workweek.
[2] Preliminary figure.

The total production of bituminous coal from Monongahela and the Marion Counties from the year 1941 through 1950 (the past 10 years) was 201,866,987 tons. The total coal shipments which moved out by river from the above-mentioned two counties in that same period was 10,097,236 tons, so that the number of tons moved by river would amount to 5 percent of all the coal produced in those above-mentioned counties during those same 10 years mentioned above.

A great many industries are located directly on rivers and they have expended large sums of money to provide the proper facilities in order to procure their coal requirements by way of river movement, and many such industries have no other means of obtaining sufficient fuel to carry on their normal operation except by way of river transportation. Such industries should be amply protected.

Large power plants and more and more industrial plants are now being established, or will be established, along the Ohio River. With very large bodies

of coal from several seams available here in this district, and adjacent to the Monongahela River, it would only seem natural to us that a large and expanded volume of river transportation may be anticipated, providing that the necessary improvements in the river channel and locks are made.

River transportation has also been an extremely valuable supplement to rail transportation in the bituminous coal industry in general. In times of short car supply, and during times of peak demand and peak production when the railroad facilities are overtaxed, and when the railroads are unable to furnish sufficient equipment to handle the required tonnage, the river movement has been most advantageous.

This supplementary aid by river transportation has been a valuable asset to this district during the past several years, when the coal companies throughout our district as a whole, were frequently only able to work their mines approximately 3 days per week for lack of railroad cars. This advantage of being able to load coal on the river makes for more flexibility in transportation and as stated above, is a most valuable asset in time of short car supply such as our district has experienced many times in the past years.

This additional outlet of transportation via river movement, has also aided materially in giving our mine labor some additional and much-needed work and thereby increasing the mine worker's income for the benefit of himself and his family, as well as being a decided benefit to the whole community.

River transportation has also helped the coal operator by affording his mine or mines better running time than he otherwise would have had, and a steadier working time, makes for improvement in the cost of his operation.

In elaborating on the railroad car shortage problem mentioned above, we would like to point out that the railroad coal car supply, for the 6-month period ending December 31, 1950, on the Monongah division of the Baltimore & Ohio Railroad averaged only 61.7 percent. This figure represents the percentage of cars placed as to cars ordered at mines on the Monongah division. During the same period of time, the railroad coal car supply, based on cars placed against orders, at mines in district No. 3 served by the Monongahela Railway, was only 55.1 percent. These two railroads serve all mines in Marion and Monongahela Counties that ship coal by river.

From this it can readily be seen how beneficial river transportation is to this district, because by being able to ship coal by river, the mines and the mine workers may secure better working time when railroad cars are scarce. This will then also permit the use of badly needed coal cars at mines that are geographically prohibited from using the river as a means of shipping their product.

Although in the past several months of this present year, the shortage of coal cars in this district has been of slight consequence, yet from many years experience, we do not believe that sufficient coal cars will be available in the future to permit the coal companies in district No. 3 to work their mines steadily, when the demand for coal requires full time operation. We should, therefore, now try to make better use of every avenue of transportation which may be available to us.

A deeper channel on the Monongahela River in West Virginia is necessary to permit the better utilization of the river equipment which is furnished to our mines, and instead of loading many of our river barges a little more than half full, as has been done in the past, our coal operators should be able to load them to full capacity for the benefit of their customers and in the interest of efficiency.

Necessary improvement in some of the outmoded locks on the Monongahela River in West Virginia, or the building of new locks and/or the elimination of some of the present locks, a continuation of the project which has been started at Morgantown, W. Va., will contribute much for more efficient handling and for the speeding up of the movement on the river for greater economy in the river coal traffic.

We expect Monongalia and Marion Counties to again ship better than a million and a half tons of coal on the Monongahela River during the present year, 1951, even with the inadequate river facilities that we have at the present time. With a deeper river channel and improved locks, a very substantial increase in the river coal traffic would be sure to follow, and such an increase in the movement of bituminous coal on the river, would result in material benefits to the coal-consuming public in general, to labor, and to the coal operators and to the local communities as well.

For your further information we are attaching hereto, a statement showing the present potential production per day and per year, of coal companies which

already have loading docks on the Monongahela River in West Virginia; and also a list of other companies, whose mines are also on or practically on the river which could build river docks; and also another list of companies whose mines are located slightly off the river, several of which have shipped via the river in past years.

NORTHERN WEST VIRGINIA COAL ASSOCIATION, FAIRMONT, W. VA.

Operating companies having loading docks on the river at the present time and shipping via river and present rating per day

	Tons
Christopher Coal Co., Arkwright No. 1 mine	5,200
Consolidation Coal Co. (W. Va.), Consol No. 93 mine	4,000
McCartney Mining Corp., Mon-Ark mines	850
National Mines Corp., Weirton No 1 mine	4,000
Rosedale Coal Co., Rosedale mines	3,200
Valley Camp Coal Co., Maiden mine	3,750
Virginia & Pittsburgh Coal & Coke Co. (various mines trucked to river)	850
Total	21,850

The above 7 companies having river docks, have a daily rating at the above mines of 21,850 tons per day. On a 5-day-per-week basis, and working every day, these mines would produce a total of 5,681,000 tons per year.

Mines located on or practically on the river which could build river docks and load on the river and present rating per day

	Tons
Christopher Coal Co., Booth No. 6 mine	2,200
Christopher Fuel Corp., National mine	2,500
Consolidation Coal Co., (W. Va.):	
Consol No. 97 mine	2,100
Everettville mine	3,000
Konya Coal Co., Byrne No. 2 mine	350
Lockview Coal Co., Lockview mine	250
Monongahela Rail & River Coal Corp., Emily mine	1,800
Pursglove Coal Service Corp., Pontiac mine	1,600
South Union Coal Co., Jamison No. 11 mine	2,600
Virginia & Pittsburgh Coal & Coke Co., Morgan mine	650
Total	17,050

The 10 mines listed above, are located on the river, but do not load on the river now, but all could put in river docks. These 10 mines have a present daily rating of 17,050 tons per day and on a 5-day-per-week basis, working every day, could produce 4,433,000 tons per year.

Mines located slightly off the River, but several of which have shipped via the river at some time or other in past years and present rating per day

	Tons
Christopher Coal Co.:	
Brock No. 4 mine (4-mile truck haul)	3,500
Osage No. 3 mine (2-mile truck haul)	4,800
Pursglove No. 8 mine (2-mile truck haul)	2,600
Pursglove No. 15 mine (2-mile truck haul)	4,500
Jamison Coal & Coke Co., Jamison No. 9 mine (11-mile truck haul)	4,400
Klink Coal Co., Eleanor mine (1-mile truck haul)	500
Trotter Coal Co.:	
Bunker mine (3-mile truck haul)	4,000
Louise mine (2-mile truck haul)	1,000
Total	25,300

The above eight mines located slightly off from the river have a daily rating of 25,300 tons per day, and on a 5-day-per-week basis, working every day, these mines could produce 6,578,000 tons per year.

OTHER STEEL COMPANIES INTERESTED IN IMPROVEMENT OF NAVIGATION FACILITIES

Mr. LAUGHLIN. I would like to make one additional comment, Mr. Chairman. I do not want the committee to receive the implication that the National Steel Corp. is the only steel company which is interested in this coal at the present time. These coal producers are themselves shipping large quantities of coal to other steel producers. To name one, Sharon Steel Co., I think, is moving about 50,000 tons a month.

Senator KILGORE. Is it not a fact that Sharon Steel also is leasing Government-owned ovens at Morgantown ordnance plant at the present time to increase their output of coke at Morgantown for shipment?

Mr. LAUGHLIN. That is correct. And that coal comes through these old locks and dams.

I have nothing further.

If there are any questions, I shall be glad to answer them.

Chairman MCKELLAR. Are there any questions?

If not, we are very much obliged to you.

Mr. LAUGHLIN. Thank you, Mr. Chairman.

Senator KILGORE. I would like to ask Mr. J. R. Spease, of Fairmont, an independent businessman, president of the Fairmont Wall Plaster Co., to come forward.

STATEMENT OF J. R. SPEASE, PRESIDENT, FAIRMONT WALL PLASTER CO., FAIRMONT, W. VA.

COMPLETION OF LOCK AND DAM SYSTEM, UPPER MONONGAHELA RIVER, URGED

Mr. SPEASE. Mr. Chairman, I am just going to tell you that I am president of the Fairmont Wall Plaster Co. We operate a sand and gravel business at Fairmont and have for years, and we have a good deal of trouble getting back and forth during the time of car shortage. We could get cement from Pittsburgh as well as sand and gravel if we had any river transportation. We make a good many blocks and sell them to the coal mines and ready-mixed cement for air shafts, and things of that sort, but with these obsolete locks and dams, we just can hardly do anything.

I believe the time to start is now in doing something for us. In just our little business, we would release some 800 cars a year to the coal companies if we could use the river more.

Senator NEELY. To what extent does your company use river transportation now, Mr. Spease?

Mr. SPEASE. It takes about 13 or 14 hours to get from Marion to Fairmont with two small barges. It is only 36 miles. We bring in a good deal by rail, but we have trouble getting cars, so that we are handicapped. When we are handicapped, the mines are handicapped for blocks, for brattice, and working around the mines.

Senator NEELY. I ask that Mr. Spease's statement be printed in the record.

Chairman MCKELLAR. Without objection, that may be done.

(The statement referred to is as follows:)

STATEMENT OF J. R. SPEASE, PRESIDENT, FAIRMONT WALL PLASTER CO., FAIRMONT, W. VA.

My name is J. R. Spease and I am president of the Fairmont Wall Plaster Co. at Fairmont, W. Va. We operate a sand and gravel plant on the upper Monongahela River at Fairmont, W. Va., and have been doing this for the past 34 years. We normally bring some 40,000 tons of sand and gravel to Fairmont, W. Va., each year by river. By using the river transportation, this means that we release to the railroad companies approximately 800 coal cars that would otherwise be used for transporting sand and gravel. Taking into consideration our competitors in this vicinity, the number of tons is much more than I have mentioned above.

We cannot bring sand and coarse aggregate from Pittsburgh, Pa., by river because it requires 36 hours to bring two small barges from Pittsburgh and 50 hours to bring the larger barges. Further, the large barges cannot come over the river at all for the last 18 miles due to the shallow channel. It takes 12 to 14 hours to bring two small barges from Point Marion, Pa., to Fairmont, W. Va., a distance of 36 miles. During the past few years we could have handled much more material if we could have brought it in by river from Pittsburgh. Now, with the new dam at Morgantown in operation, we are only some 18 miles above it and, consequently, improvement of the old locks and dams would give us relief at Fairmont.

I have seen occasion in the past few years where the channel was so filled with mud that it was next to impossible for us to navigate our barges. Some time ago, in trying to pull a barge of sand out of the mud, we threw our derrick and demolished it. On numerous occasions in the past I have seen barges stuck in the mud experiencing great difficulty getting out. On one occasion the channel was so shallow that a barge of sewer pipe stuck in the mud, breaking the main gas line across the river at the point where we were grounded, which shut off the gas supply for many hours.

We furnish a great many cement blocks and also ready-mixed cement to various coal companies and industries in the vicinity of Fairmont and elsewhere. Many of these companies who use our material are working on national defense matters. When railroad cars are scarce it is difficult at times for us to get cement transported. There are two cement companies located on the river near Pittsburgh, Pa., from whom we could obtain cement if we were able to bring it to Fairmont by river barge. However, this is almost impossible for a great part of the year due to the obsolete locks and dams above Morgantown on the upper Monongahela River.

In view of the above circumstances, I respectfully request that this committee make the necessary appropriation so that the upper Monongahela project, previously authorized on occasions in the past and now partially completed, may be expedited and completed as soon as possible.

Senator KILGORE. I have a number of others here.

I am wondering if you would all file your written statements, because we have already run over our time that I agreed with the chairman we would use.

So if you will just, each one of you, announce your name and file your statement, I shall appreciate it.

STATEMENT OF EZRA HAMSTEAD, REPRESENTING CHRISTOPHER FUEL CORP., MORGANTOWN, W. VA.

PRIVATE AND GOVERNMENT USE OF NAVIGATION FACILITIES, UPPER MONONGAHELA RIVER, W. VA.

Mr. HAMSTEAD. Mr. Chairman, on behalf of the president of the Christopher Fuel Corp., a coal-operating company just above lock No. 10 and not reached by the backwaters of lock No. 10, but would be reached by the construction of one more lock, I would like to submit a written statement.

This is another small business. They have a capacity and can produce a million tons of coal a year if they had river transportation, but they have no operation below lock No. 10. Therefore they cannot fill the barges except half full, as Mr. Millsop outlined, and then refill them below.

Therefore, they are deprived of proper transportation facilities.

On behalf of the civic clubs of Morgantown, for whom I have been asked to speak just one word, I ask to point out this fact: The Government, a few years ago, built the Tygart River Dam, a good control measure, at the cost of $1,000,000. That is just above this proposed project. You just spent about $10,000,000 on lock No. 10. The Government has spent $100,000,000 in its ordnance plant designated as Morgantown ordnance plant, which would be served by another lock.

All those expenditures have just been made within a very few years by our Government. Another lock would utilize the expenditures of all.

Thank you.

Chairman McKellar. In other words, building one lock without the other would be of no advantage to you?

Mr. Hamstead. They are without perfect utilization or even very substantial utilization until one more lock is completed and the reservoir from Tygart River will keep plenty of water in those locks even in the driest of seasons and all of them will be utilized.

We say it is a waste to deny that expenditure which will utilize all of the Government's heretofore vast expenditures.

Chairman McKellar. Your statement will be filed in the record.

(The statement referred to is as follows:)

Christopher Fuel Corp.,
Morgantown, W. Va., June 29, 1951.

Committee on Civil Functions of the United States Senate,
Senate Office Building, Washington, D. C.

Dear Sirs: My name is H. Ward Christopher. I am 26 years of age, and I reside at 106 Wilson Avenue, Morgantown, W. Va. I am a graduate of Massachusetts Institute of Technology, Cambridge, Mass.

I am the president and sole stockholder of Christopher Fuel Corp., a West Virginia corporation. Christopher Fuel Corp. is engaged in the business of mining and shipping bituminous coal. The national mine of Christopher Fuel Corp. is situated on the Monongahela River, about 5 or 6 miles south of the city of Morgantown, Monongahela County, W. Va., and about 3 miles south of lock No. 11, or what is locally known as the Hildebrand lock, of the Monongahela River.

Christopher Fuel Corp. mined and shipped 426,779.90 tons of coal for the calendar year 1950; and it hopes to mine and ship a like amount of coal for the year 1951. The maximum yearly capacity of the mine is approximately 1,000,000 tons, and the daily capacity approximately 4,000 tons. Prior to May 1951, Christopher Fuel Corp. had, exclusive of office personnel, 196 employees. The number of employees has been reduced slightly since May 1, 1951.

The coal mined by Christopher Fuel Corp. is shipped by rail. It is impractical and uneconomical to ship coal by water from mines located south of lock No. 11, for the reason that barges at those points can be loaded only to 60 percent of capacity. This condition is due to the shallowness of the water of the Monongahela River, south of the Hildebrand lock. Many steel mills and other potential consumers of coal are located on the Monongahela and Ohio Rivers. In the event of war, or other disaster, a substantial part of all coal mined, or which is capable of being mined, south of the Hildebrand lock, could not be transported to market under existing conditions.

If water transportation were available, production would be increased, resulting in greater employment and increased income for the employees.

The construction of a new lock, as proposed, at Hildebrand, on the Monongahela River, would make transportation by water available to the company. At the present time the Monongahela River, south of Hildebrand, cannot be used for the shipment of coal by reason of the shallowness of the water at that point. If appropriations were made by the Federal Government for the construction of a new lock at Hildebrand, and a new lock was built there, water, as well as rail transportation would be available to Christopher Fuel Corp. and to others.

Very truly yours,

H. WARD CHRISTOPHER.

Senator KILGORE. Steve Miker, do you have a statement?

STATEMENT OF STEVE MIKER, MORGANTOWN, W. VA., MEMBER OF THE UNITED MINE WORKERS OF AMERICA

IMPROVEMENT OF NAVIGATION FACILITIES, UPPER MONONGAHELA RIVER, W. VA.

Mr. MIKER. Yes, sir.

Senator KILGORE. Would you mind filing that in the record?

Mr. MIKER. That is my written statement, sir.

Chairman MCKELLAR. Without objection, that statement will be printed in the record.

(The statement referred to is as follows:)

STATEMENT OF STEVE MIKER

My name is Steve Miker. I am a resident of Morgantown, W. Va., and have been for 33 years. My occupation is that of a coal miner. I have followed this occupation for 14 years. I am a member of the United Mine Workers of America and have been during the entire period of my occupation as a coal miner. I have served my country for 33 months in its Armed Forces. I have held the office of finance secretary, mine committeeman, delegate to the miners' international convention in Cincinnati, representing local union No. 4040, in October 1948, and have held many other positions of honor in my local union.

I am here for the betterment of my working conditions and the working conditions of my fellow laborers in Monongahela County. We have the best opportunity in the world to develop and build coal fields in our county and neighboring counties if the Monongahela River were made navigable for coal transportation by building another lock and dam just above lock No. 10 on the Monongahela River, which the Government has recently built and constructed.

This development would mean more employment, better living conditions, and in the end the Government would collect more taxes for the public good of our country.

In our crisis now this project would give our industry a big shot in the arm, and our Armed Forces would also be provided with the raw material that it takes to make guns and cannons in the steel factories at Pittsburgh and other steel factories along the Monongahela River. Fuel shortages of these steel factories would be at an end if the rich coal fields above lock No. 10 on the Monongahela River were given a chance to ship the coal produced from these fields by river transportation.

If the Government would build another lock above lock No. 10 it would eliminate the hardships we are having at the present time. Railroad-car shortages would be eliminated and the coal we mined would be free of the high railroad tariff.

We, the coal miners of this valley, are in dire need of steady employment to give our children the chances they are entitled to in life: to an education, clothing and food. Our unions have secured for us better working conditions and better wages, but our unions cannot secure for us more employment if the employment isn't available, and if our employers had river transportation, more employment and steadier employment would be immediately made available for our unions that are now trying in desperation to make a decent living for their families, but cannot because shipping by river transportation is not available.

The mines have been only working 1 and 2 days a week that are depending on railroad shipment, and if this new proposed lock No. 11 would be constructed immediately and put in operation, we know there would be steady work for all of us. We also know, by the opening up this river transportation for coal, many more employees would be added to our union membership.

The river, at the present time, does not have a channel deep enough to carry large barges. I work for the Christopher Fuel Corp., and it cannot ship its coal by river transportation because of the lack of just one more lock and dam on this river. I have seen the barges and towboats try to go up the river above the new lock No. 10, and a streak of mud would come up behind the towboat, and if the barges were loaded more than half full they would be grounded and stuck in the mud. This condition can be remedied by our Congress if just one more lock would be constructed.

I know that the cost of another lock would so benefit the employment of the members of my union and open up development and additional production for my employer and many more coal operators along the river, that the Government would soon be repaid for whatever it costs to make this improvement by added income taxes. Both employer and employees are heavy income taxpayers now when both are given a chance to produce.

The members of my local union and many more local unions of the United Mine Workers of America are going to follow very closely the action of this committee to see if our requests so fairly and earnestly made receives their proper consideration.

IMPROVED NAVIGATION PROGRAM TO AID WORKING CONDITIONS

Mr. MIKER. I would like to say a few words and make it short.

Chairman MCKELLAR. All right.

Mr. MIKER. I hope that hits the nail.

Mr. Chairman, for the past 6 years, organized labor has come a long ways and fought a hard road. Now, that we are stabilized with the higher standard of living—I have been a resident for 33 years of Monongalia County—I do not like to work 1 and 2 days a week and sometimes 3 and try to make a living at it. Our families are starving working. That is the truth. I can back it up. It is awfully hard on us labor boys. If we could just have the 5 days a week through a better and cheaper transportation to help us all, I think that everybody in our valley would be satisfied and everyone else that would benefit by this would be satisfied and also, Mr. Chairman, this project would produce much more employment in our valley and would make a heck of a big stack of taxes coming in to our Government to help pay for these things. I do know that.

Just to show you one example, right now in our State of West Virginia, we are having a medical school. It was passed by the legislature and our Governor has picked a site at Morgantown. We are paying taxes now for that purpose. How otherwise could we get our schools there if we could not get taxes? Through taxation we get everything and, Mr. Chairman, my taxes have been paid every year and my neighbors, and my brothers have paid taxes, and there will be, like I have stated, another big stack of taxes come to our Government to help us working class people.

I thank you.

Chairman MCKELLAR. Are there any questions, gentlemen?

Senator STENNIS. I have one question, Mr. Chairman.

Do you mean now that your unemployment for 3 days a week is due to lack of transportation?

Mr. MIKER. That is right, sir. For this past 6 years, our transportation on rail has been very poor. I am financial secretary in the

union. I mingle with the company, which I have to do because I have to know the men who are employed and what they are, and so forth.

In 1944, I was discharged from the service. My father died and left my mother by herself. I had served 33 months already in the service. When I came home they were working at that time. That was in 1944 I went to work. I was discharged November 6 and went to work November 17.

Senator STENNIS. You have made a fine statement here. I am impressed with it, but could you give us anything more definite about this employment?

Would building this barge line increase this employment to 5 days a week?

Mr. MIKER. Yes, sir. We had three shifts working. We had one taken off in 1949. Do you know the reason why?

We could not get adequate supplies and the tariff on the rail is so high they took this shift off. That took off 100 men. Those men had to go out and accept employment in other places, cheaper living, and they had fought for something that I tell you it is hard to fight for, and lost it by having to quit their job and go elsewhere.

If we had cheaper transportation, we could be working 5 days a week. I know definitely, I can prove it, that if we get that, Mr. Chairman, and you come to our neighborhood, you would see the difference in unemployment.

Senator STENNIS. They have put the freight rates up so high that it has knocked out your employment there at the mine?

Mr. MIKER. Yes, sir.

Senator KILGORE. Mr. Chairman, any coal mine orders only the cars for that for which they have a market. They only get 61 percent of the cars they order, which means that if they have buyers for even at the freight rate they still cannot get but 61 percent of the cars they order.

Mr. MIKER. Excuse me, Senator Kilgore, I have one more point. During our vacation for a 10-day period, which consumed quite a bit of our coal, we went back to work, and what happened? We worked 1 day last week. We worked Tuesday of this week, and I do not know if we are going to work any more this week or not. The steel companies are not going to buy that coal if they are going to pay a high price for it. If you buy a pair of shoes, you will pay what your pocketbook dictates.

Senator STENNIS. Thank you very much for your fine statement.

Senator KILGORE. We have Mr. Elmer W. Prince, city manager of the city of Morgantown.

Mr. PRINCE. Yes, sir.

Senator KILGORE. Would you file it?

Chairman MCKELLAR. Without objection, the statement may be printed in the record.

(The statement referred to is as follows:)

THE CITY OF MORGANTOWN, W. VA.,
June 18, 1951.

SENATE COMMITTEE ON CIVIL FUNCTIONS,
Senate Office Building, Washington, D. C.

GENTLEMEN: The attention of the writer has been directed to a request which is being made for the construction of additional locks and dams on the Mononga-

hela River, between the present lock No. 10, located at Morgantown, W. Va., and Fairmont, W. Va. It is the desire of the writer to express his views in behalf of this project as a result of his residence in Morgantown for the past half century, and as an employee of the engineering department and city manager of Morgantown since 1922, except during a period of World War II when he was granted a military leave of absence.

During the early 1900's heavy and voluminous shipments of materials, supplies, and equipment for the Morgantown area from Pittsburgh were transported on the Monongahela River; these shipments included road-building supplies and equipment, as well as supplies, equipment, and materials for industries then being located in Morgantown and the surrounding area. Since that time the demands for river transportation have changed in the character of shipments, but the volume has increased many fold. As a result of increased demands for river transportation, the United States Army Corps of Engineers in the 1930's held hearings and made numerous surveys of the Monongahela River between Pittsburgh, Morgantown, and Fairmont to determine the facilities required to meet the demands for river transportation.

Again in the middle and late 1940's the Corps of Engineers recognized the need for more adequate transportation facilities along the Monongahela River, between Morgantown and Fairmont, and surveys were made and hearings held with the subsequent hearings before committees in both Houses of Congress. The result of the surveys and hearings was the recent construction of the more modern and adequate lock and dam construction at Morgantown to provide facilities for the use of larger and more numerous river transportation units.

Since the last survey by the Corps of Engineers and hearings of Congress large coal fields of metallurgical coal, as well as industrial organizations, have begun or expanded plant operations and propose to use river transportation for shipments of supplies and materials from their locations with deliveries to Pittsburgh, Pa., Wheeling, W. Va., and other points in the East and Middle West. A very large part of the production from the coal fields and industries between Morgantown and Fairmont are for delivery to steel mills and other industries producing equipment and supplies for national defense. The United States Army, during the past week, has received bids and will award, prior to July 1, a contract to a chemical corporation for the operation of the Morgantown Ordnance Works, located on the Monongahela River, Morgantown, W. Va., for the production of ammonia, methanol, and other byproducts required for military and commercial use. The problem now facing the industrial organizations between Morgantown and Fairmont is the lack of sufficient depth of the stream to permit the use of proper river transportation units for the expeditious and economical water shipment of the supplies. The construction of another lock and dam on the Monongahela River, at Hildebrand, W. Va., south of Morgantown, will provide water-transportation facilities to meet the greater part of the present demands for river transportation between Morgantown and Fairmont.

From the knowledge and experience gained by the writer, during his 63 months of military service, during World War II, as an officer in the United States Army Corps of Engineers, of which 32 months was with military government in the E. T. O., August 1943 to April 1946, which service was in both combat and rear areas of Italy, France, Luxemburg, and Germany in charge of public works, utilities, industries, and governmental agencies of the occupied areas to which he was assigned, the transportation by railroads and highways in these areas was completely disrupted by reason of bombing by Allied planes and demolition by retreating German armies and the countries, particularly Germany, were forced to depend upon river transportation for distribution of commercial equipment, materials, and supplies, i. e., Danube, Rhine, etc. Prior to and during World War II Germany and Italy operated under dictatorship governments with the result that labor unions were outlawed and there were no such things as strikes. With strikes a part of our national routine, railroad shipments in the past have suffered severely, and the same may happen in the future. The transportation problems, if coordinated with water facilities, would be diminished greatly.

During a war period strikes and sabotage of railroads and highways would definitely cripple this Nation without the aid of adequate river transportation. In the past 3 or 4 years this country has seen a dire lack of railroad cars for railroad transportation shipments while river barges for the same purposes have been plentiful. The American Automobile Association, in its magazines and news releases, has indicated that the highways of the country are saturated with automobiles and trucking equipment. State and local governments,

throughout the Nation, have been and are now unable to meet the additional highway demands as a result of the very great increase in the number of automotive vehicles and construction costs, which added burdens are far and above the increases in revenue to the governmental agencies.

The construction of lock and dam No. 10 at Morgantown has also materially aided the United States Government in its flood-control program along the Monongahela, the Ohio, and Mississippi Rivers. The large Tygart Valley Dam, near Grafton, W. Va., constructed as a flood-control project, in conjunction with new dam constructions along the Monongahela, Allegheny, and Ohio Rivers, could be assisted in the program by the construction of additional modern locks and dams between Morgantown and Fairmont. The United States Government, through the Army Corps of Engineers, has recently completed lock No. 10 on the Monongahela River, in Morgantown, W. Va., at a cost in excess of $8½ million, but this completed lock and dam fails to provide the facilities necessary for river transportation in the newly developed metallurgical coal and industrial areas between Morgantown and Fairmont, W. Va. By the completion of one more lock and dam, namely, the Hildebrand, or lock No. 11, the recent and past investments more adequately become serviceable, and the present lock No. 10 and the proposed lock No. 11 will make available for river transportation large areas of the natural resources which are indispensable in the manufacture of steel which is so vital for our national defense. In addition to acting as a flood control measure the Tygart Valley Dam, the present lock and dam No. 10 and the proposed lock No. 11—proposed to be located at Hildebrand, W. Va.—would provide adequate water supply for water-transportation facilities at all times, and the condition of extended drought, as in 1930 when the Monongahela River in Morgantown was completely dry, would be averted. The series of locks and dams, including the proposed Hildebrand lock and dam, would serve a dual purpose, namely flood control and transportation facilities in both storm and dry periods.

These views are not presented in the interest of the development of Morgantown or any other particular area; neither are they presented in the interest of any private industry, which now or later will develop the metallurgical fields of coal and other natural resources along both sides of this river; but are in the interest of economic stability, full utilization of the very recent investments of the Government and more particularly the national defense of the Nation. It is trusted your committee will give favorable consideration and approval to the proposal for the new lock and dam construction.

Very truly yours,

ELMER W. PRINCE, *City Manager.*

Senator KILGORE. Mr. Ernest Richards, do you have a statement?

STATEMENT OF ERNEST RICHARDS, MORGANTOWN, W. VA., MEMBER OF THE UNITED MINE WORKERS OF AMERICA

IMPROVEMENT OF NAVIGATION FACILITIES, UPPER MONONGAHELA RIVER, W. VA.

Mr. RICHARDS. Mr. Chairman, I have a statement which I would like to present to you.

I would like to say two or three words.

Chairman MCKELLAR. The statement may be filed.

(The statement referred to is as follows:)

STATEMENT OF ERNEST RICHARDS

My name is Ernest Richards. I am a resident of Morgantown, W. Va., and have been for 29 years. My occupation is that of a coal miner. I have followed this occupation for 48 years, having started at the tender age of 12½. I am a member of the United Mine Workers of America and have been for 29 years. I have held the office of the president for 15 years, mine committeeman, scale committee, treasurer, and many other positions of honor in my local union. I have been most active in the advance of organized labor in my county and State and have served my organization to the best of my ability ever since becoming a member of it. I was one of the first to be appointed on the Rent Control Board

of the Morgantown Rent Area in 1940, and am still on the rent committee. I was a member of our 1949 State legislature.

The leaders of the United Mine Workers in this county have discussed at their union meetings, time and again, what steps should be taken to remedy the terrible railroad car shortage that the coal operators of this valley and their employees have experienced during every single emergency. The shortage often exists even when there isn't any emergency.

Since this Monongahela River Valley is one of the largest coal-producing valleys in the United States, and is 100 percent unionized by the United Mine Workers of America, naturally, we of the United Mine Workers are not only interested in the welfare of our unions, but we are interested in seeing that our unions serve the general welfare of our country.

The great steel mills at Pittsburgh and other places along the Ohio River need the coal that is produced in the upper Monongahela Valley. The United Mine Workers of America are able to produce and fulfil that need, if we had the transportation facilities that could get the coal we mined to the steel mills. The railroads, we say, cannot do it because they haven't been able to ship our production. The railroads haven't done it in the past, and we know they won't do it in the future when the demand may even be greater.

Our organizations have been criticized and suffered prejudice in the public eye when we were obliged to effect work shortages to secure contracts of employment from our employers, but when we suffer unemployment due to the lack of railroad cars, the injury done to the members of our organization is always passed by the public without notice. This is an unfair position that our organizations are put in through no fault of their own and can be materially remedied by the development of proper river transportation on the Monongahela River and proper river transportation can be provided by the construction of another lock and dam above lock No. 10, which has recently been completed by the Government.

The situation has existed in this county for many years now, that the coal operators below lock No. 10, along the Monongahela River, enjoy river transportation for the shipment of their coal. Such mine operations give steady employment to the members of our union because when the operators can't get the railroad coal cars the shipment of their coal goes on the river and their mines can still operate because of river shipments. When the operators above lock No. 10 on the Monongahela River can't get the railroad coal cars their operations are shut down and the members of the union are without work.

Now since the freight rates are so high for railroad shipment of coal, many independent coal operators are entirely shut down while the coal operators below lock No. 10, who can ship coal by river are running full schedule. This fact is a demoralizing influence among our different union organizations. The members of our unions who are working for coal operators who do not have river transportation, because the locks were not completed, are forced to quit work and their families are often left in desperate financial trouble while the members of our organization below lock No. 10 are receiving steady employment. This is an unfair position for our brothers who are working in the mines of operators that do not have river transportation.

All of this unfairness and turmoil among our local unions can be remedied by our Congress if it will appropriate sufficient funds to construct at least one more lock and dam on the Monongahela River above lock No. 10, which the Government has just completed and put into operation. That lock was important, but it fails to reach, by at least one more lock, the big coal operations now ready to make river shipments if another lock is completed.

The United Mine Workers of this Monongahela Valley all, both above lock No. 10 and below it, earnestly request this committee to recommend appropriations that will bring an end to the employment unrest which our organizations have suffered for lack of railroad coal cars—river transportation will give us uniform employment in all of our unions throughout the entire valley.

Respectfully submitted.

ERNEST RICHARDS.

Mr. RICHARDS. I would like to supplement the statement right now of the brother before me. I am president of the local union, called the Valley Camp Coal Co.

Down at our mine, we are without the experiences of what these other men have had. Our mine loads on the river and the railroad.

Last week, for instance, we had cars enough to last us for 3 days. As luck happened, we had some barges on the river, and we finished working the 5 days. Before then, when we did not have the river, we were working the same as what these other fellows were working. We were only working 3 days a week.

But the Valley Camp Coal Co.—I think it is a Cleveland concern—put in this river transportation. Since then we have been having good service.

I am not here just speaking for myself. I am speaking on behalf of 4,000 miners of Monongalia County. I have been there for 29 years. I have held all positions and I am still the president and I have been the president of that company for the local union for 15 years and if I finish it will be 17 years. So you see that I am speaking for a big body of men, and especially these men who are living up river from where I am living. I am living down in the city. Those fellows living up the rivers, we fellows feel very sorry for.

So if you can do anything for them, it will be appreciated by the 4,000 miners of Monongalia County.

Thank you.

Senator KILGORE. You were a member of the legislature for some time?

Mr. RICHARDS. I was; yes.

Chairman MCKELLAR. We are very much obliged to you.

Senator KILGORE. Are there any other statements that can be filed with the reporter that you want to get in the record?

Mr. RICHARDS. No, Senator. Thank you, sir.

STATEMENT OF DAVID MATHEWS, JR., SECRETARY, THE PITTSBURGH COAL EXCHANGE, PITTSBURGH, PA.

IMPROVEMENT OF NAVIGATION, UPPER MONONGAHELA RIVER, W. VA.

Mr. MATHEWS. Mr. Chairman, my name is David Mathews, Jr., representing the Pittsburgh Coal Exchange, consisting of leading coal, steel, sand, and gravel, and manufactured goods producers in America. We ship about 40,000,000 tons a year on the Monongahela River.

I want to emphasize the remarks that Mr. Millsop made. If you magnify them 21 times, you will see the problem our association has.

We need 15,000,000 tons of coking coal out of this Morgantown-Fairmont area. We need it badly. We hope you gentlemen will give us a chance to get it in the next 15 years.

Mr. Chairman, I have a statement which I should like to file for the record.

Chairman MCKELLAR. That may be done.

(The statement referred to is as follows:)

THE PITTSBURGH COAL EXCHANGE,
Pittsburgh 22, Pa., July 18, 1951.

CHAIRMAN, COMMITTEE ON APPROPRIATIONS,
United States Senate, Washington, D. C.

DEAR SIR: Attached hereto is a statement on behalf of the Pittsburgh Coal Exchange favoring improvement of the upper Monogahela River above Morgantown, W. Va.

Respectfully yours,

DAVID MATHEWS, JR., *Secretary.*

STATEMENT OF DAVID MATHEWS, JR., SECRETARY-TREASURER OF THE PITTSBURGH COAL INSTITUTE, PITTSBURGH, PA.

The Pittsburgh Coal Exchange, organized in 1870, is a nonprofit association of common, contract, and private carriers by water, and related industries. Included in our membership are the leading coal, steel, sand and gravel, and manufactured goods producers in America. The exchange represents some 40 million tons of waterborne traffic annually in the Pittsburgh district.

We favor the continued improvement of the upper Monogahela River by the construction of a 9-foot channel to Fairmont, W. Va., by replacing antiquated locks and dams Nos. 12, 13, 14, and 15 with two modern structures at Hildebrand and Opekiska. The Congress of the United States has wisely caused to be built the first link in such a modern waterway by the construction of a new lock and dam located at Morgantown, W. Va. This has been a tremendous step in the right direction, but full economic benefits of the Morgantown Dam cannot be realized until the pools upstream are deepened to a comparable project depth. It is not now possible to load barges to anywhere near capacity in the upper pools. Nor are the locks of sufficient size to handle a standard Monongahela River tow consisting of six barges and towboat. The entire economy of the waterways industry is based upon such a standard tow and the gigantic steel-producing industry in the river valley has an operational procedure based upon the delivery of coal and other raw materials by such a method. Obviously, when it is not possible to load tows of regulation size to regulation depths in any part of a traffic route, the entire operational procedure is badly disrupted. Neither the producer nor the consumer can realize full economic benefits. Gasoline and petroleum barges headed for ports above the Morgantown pool must be partially unloaded before proceeding upstream. Coal barges from the upper pools can be loaded to only 600 tons maximum as against the usual 900 to 1,000 tons and the size of the tows must be reduced from the standard six barges to only four barges in order to pass through the small locks.

The ever-increasing demand for coal, especially metallurgical coal, by the heavy concentration of steel corporations and satellite industries in the Pittsburgh area causes the Monongahela Valley above Morgantown to be of vital importance in our national economy. Captive mines in the Pittsburgh area can no longer produce enough coal to meet the demand. Mills and factories must now reach farther and farther upstream for their coal supplies. In the project area there is some 3 billion tons of coal which is either on the river or close enough to the river to be transported economically by barge to the steel mills in the lower valley. This coal has been moving down the river and the tonnages are increasing rapidly in spite of old and worn-out locks and dams and a shallow channel. Tonnage passing through lock 12, the first of the locks which would be replaced by Hildebrand Dam, was only 45,000 tons in 1939, but in 10 years it has risen to more than 900,000 tons, or an increase of 2,000 percent. Even the lock at the head of navigation, lock 15, has shown a sharp rise in 10 years from 36,000 tons to 360,000 tons. With present equipment only and no new consumers, these tonnages could be doubled if a 9-foot project depth were available.

Potentially the tonnages are even greater. Our investigations and surveys reveal that the total annual tonnage on the new waterway would amount to some 5 million tons based on bona fide consumers in the lower valley who are ready and anxious to receive the tonnage. One company alone has 60 million tons of coal which has already begun to move through the old locks. There are 5 other companies on the river who will move some 4 million tons, 10 mines on the river who can move another 4 million tons, and 8 mines near enough to the river to use water transportation who could move another 6 million tons, making a potential tonnage of more than 15 million tons per year.

There has been considerable testimony during Department of the Army hearings and congressional hearings, especially during 1947 and 1948, concerning the railroad car shortage which prevents capacity production of coal in the project area. Testimony of coal producers and members of the Mine Workers revealed that mines had to be shut down from time to time because of the car shortage. The increase in demand for coal from this valley cannot help but make this shortage more acute. The river can alleviate the situation and at the same time provide a much lower cost transportation medium. By opening up this vast coal-producing area to river transportation, railroad cars could be released for the movement of coal from interior West Virginia to the north and northwest. Coal which moves to the Great Lakes from this area either all-rail or

combination rail-water can be moved to Pittsburgh by water and then via rail to Fair Harbor at a savings of from 20 to 30 cents per ton, and at the same time provide a much quicker turn-around time for rail cars in that commerce.

Certainly this is a most valuable waterway. Outmoded and antiquated locks and dams, far too small in size, cannot hope to cope with even present requirements, to say nothing of the future. Channel limitations forbid full use of present equipment and normal cargoes of coal and sand and gravel, and even prevent altogether the use of the larger type petroleum barges. We believe the above evidence to be adequate factual justification for the proposed project. The assured tonnage based upon consumer demand in the Pittsburgh area will develop river traffic in the project area to a degree comparable to the lower valley of the Monongahela River, which is the most economically justifiable waterway in existence, the locks averaging as much as 22 hours out of 24 in operation. This river has been the life-giving traffic artery of the gigantic steel-producing Pittsburgh area, so frequently referred to during the war as the "Arsenal of Democracy." It must continue to feed the demands of this vast industrial empire and it can be done only by opening the coal fields of the upper valley to a modern waterway facility. Moreover, the development of this area would bring to the upper valley new businesses, new services, new and greater employment, added revenue to all forms of transportation, a better balanced economy, and promote the general welfare of the entire area.

For the above reasons, we urge the Congress of the United States to appropriate sufficient funds for the construction of Hildebrand Dam, the next link in this vital traffic artery.

STATEMENT OF W. H. GRIFFITH, SECRETARY, NATIONAL ORGANIZATION OF MASTERS, MATES, AND PILOTS OF AMERICA, LOCAL NO. 25, PITTSBURGH, PA.

IMPROVEMENT OF NAVIGATION FACILITIES, UPPER MONONGAHELA RIVER

Mr. GRIFFITH. My name is W. H. Griffith, secretary and business manager of the National Organization of Masters, Mates, and Pilots of America, Local No. 25, located at 601 Wabash Building, Pittsburgh, Pa. We are an organization composed of about 350 licensed masters, mates, and pilots of inland waterways.

We are very much interested in canalization or a wider stream, better lock facilities, in the upper Monongahela River.

Our people have been asked to go farther and farther up this river to bring down the necessary coal, but it is almost an impossibility with antiquated locks and dams such as you have in the upper reaches.

As Mr. Millsop showed you in the photographs, it is really a job to get two barges in a lock 182 feet long and 56 feet wide and make any time. With good standard locks where we could put in six standard barges holding between 5,000 and 6,000 tons, we would really expedite the coal to its destination.

Chairman MCKELLAR. Your statement will be filed in the record.

(The statement referred to is as follows:)

NATIONAL ORGANIZATION,
MASTERS, MATES, AND PILOTS OF AMERICA, LOCAL NO. 25,
Pittsburgh 22, Pa., July 16, 1951.

Subject: Upper Monongahela improvement.

CHAIRMAN, COMMITTEE ON APPROPRIATIONS,
United States Senate, Washington, D. C

DEAR SIR: My name is W. H. Griffith, secretary of the National Organization of Masters, Mates, and Pilots of America, Local No. 25, with headquarters at room No. 601, Wabash Building, Pittsburgh, Pa. Harbor No. 25 was organized before the turn of the last century as a fraternal organization for the purpose of working for practical navigation rules and regulations and the development of the western rivers for waterways transportation. In the last decade we have

become affiliated with the American Federation of Labor and the railroad brotherhood and are the bargaining agents for all of the licensed deck officers on the Ohio River and tributaries and part of the Mississippi River. We wish to go on record before this committee as favoring the development of a 9-foot project depth in the Monongahela River above Morgantown lock and dam by the construction of a lock and dam at Hildebrand and another at Opekiska.

There is a heavy concentration of river traffic on the Monongahela River and our members are responsible for the safe delivery of some 40 million tons of cargo annually on that waterway. We are much concerned with a trend that has developed in recent years, whereby our pilots are being asked to go farther and farther upstream for tows of coal to be brought to the mills and factories along the lower river. Every deck officer must hold a Federal license over the waters which his vessels traverse, and more and more of our men are being requested by their employers to obtain licenses for the upper reaches of the Monongahela River. It is obvious that because the industry must now go to the hinterlands for raw materials, part of the upper valley is going to play a very important part in the welfare of our members as far as employment is concerned.

We are faced with the problem of moving thousands of tows annually in a waterway which is wholly inadequate to handle such traffic. The locks and dams are old and worn-out and the channel is so narrow and shallow as to make navigation extremely difficult and hazardous. We are most fearful that, if we are asked to increase the number of tows to any great degree, there will be a serious breakdown at the locks, which might result in severe damage or even death to crew members. Because barges can be only partially loaded in the project area, we realize that there must necessarily be an increase in traffic, with the resultant long delays at locks and congestions in the very narrow channels. It does not portray a very pretty picture for employment and working conditions for our members in the future.

The operations of the companies which own and operate towboats in the lower valley are based upon a standard Monongahela River tow of six barges and boat loaded with five to six thousand tons of cargo traveling in a channel of not less than 9 feet in depth. We have the trained personnel to handle this traffic and we stand on our record of continuous service and delivery of cargo with a minimum of delay, especially during World War II and the present emergency. We are not looking forward to being asked to continue that record on a waterway which is not equipped to handle the tonnage.

Locks in the upper river are only 182 feet long and 56 feet wide. This means that we can tow only four partially loaded barges and must endure triple lockings at each lock instead of going through with a full tow as we do in the lower river. The new lock and dam at Morgantown is a wonderful improvement, but we fail to see how much benefit can be derived from it when tows coming down or bound for points above cannot even be loaded to normal capacity. The new locks are 600 feet long and 84 feet wide, which provides a reasonable passage for boat and barges. If we are to continue to increase tonnages from this area similar locks must be provided upstream.

We believe that the economy of the industry in which we are employed depends greatly upon the development of the upper river for navigation and we believe it to be false economy for the Congress to hold back appropriations for this work. We are most certain that when these locks are built the upper valley will develop to a degree comparable to the lower Monongahela, which is the most economically justifiable waterway in the world. There is no doubt in our minds that the entire area will benefit and that new business and industry will be attracted which will create prosperity for all concerned.

For these reasons, we urge that this committee recommend enough appropriation to begin construction of Hildebrand Dam.

W. H. GRIFFITH, *Secretary.*

STATEMENT BY E. H. HEDRICK ON IMPROVEMENT OF NAVIGATION, UPPER MONONGAHELA RIVER, W. VA.

Representative HEDRICK. Mr. Chairman, I have prepared a statement concerning Monongahela River which I would like to submit for the record.

Chairman MCKELLAR. Without objection that may be done.

(The statement referred to is as follows:)

STATEMENT SUBMITTED BY MR. HEDRICK, REPRESENTATIVE FROM THE SIXTH DISTRICT OF WEST VIRGINIA

The United States Government has invested more than $14 million in the construction of a new lock and dam on the upper Monongahela River located at Morgantown, W. Va. The purpose of this new construction is to increase the depth of the channel from 7 feet to 9 feet.

Upon the recommendation of the United States Army Corps of Engineers and subsequent approval by Congress, the entire Monongahela River project has been approved in the past. The purpose of this project is to remove six old locks and dams on the upper Monongahela River that were built in 1903 and replace them with three new modern locks and dams of much larger capacity in order to take care of the enormous amount of transportation available on the upper stretches of the Monongahela River, as noted by an increase of more than 300 percent in the past few years. The volume of tonnage carried on the Monongahela River in recent years has exceeded the volume of tonnage carried through the Panama Canal.

The deepening of the channel and replacement of obsolete locks in the upper reaches of the river will open for development the vast coal fields of northern West Virginia, the last great deposit of metallurgical coal in the United States. The coal is urgently needed by the steel industry in the vicinity of Pittsburgh, Pa., and points in Ohio and West Virginia.

The volume of the annual commerce on this river, after modernization, is estimated at 3.67 million tons annually. The Board of Army Engineers for Rivers and Harbors calculates that the annual benefits will amount to $3,516,000.00 as compared with the Federal annual carrying charge of $1,902,000.00. The benefit cost ratio is 1.84.

Existing rail-car facilities for the transportation of coal in the upper stretches of the Monongahela River are wholly inadequate for the available traffic. In the past few years, the shortage of railroad cars has been such that for months coal mines were shut down several days a week due to the fact that they could not obtain railroad cars for the movement of coal.

The execution of the Monongahela River project has been strongly supported by every expert who has examined it. Further, the National Rivers and Harbors Congress has placed the Monongahela River project as a class I project, it being noted that this project is at the top of the list in this classification and is recommended by the National Rivers and Harbors Congress as a sound project which should be promptly constructed in the public interest.

Certainly, no project which cannot prove itself in terms of necessity for our national defense or industrial measures would be a matter of study by this committee. These replacements are needed and at this time. I would like to emphasize that this committee is not being asked to approved any construction appropriation now, but this committee is merely asked to approve planning money.

Otherwise, if this money is not forthcoming at this session, more than a year will be lost which is valuable time in view of world conditions. The present locks cannot accommodate the barges more than 60 percent loaded, causing a great loss of time and energy. This metallurgical coal is badly needed now and will continue to be needed during this emergency for coking purposes. I am sure that the committee realizes that it is impossible to manufacture steel without coke and coal. If we should have the misfortune of involvement in a third world war, the demand for this type of coal would be terrific and maybe the possibility of procuring metallurgical coal would be very remote. Therefore, I highly recommend to the committee that we play safe and be prepared to meet any emergency. This is purely a defense matter and in my judgment a very urgent one. We cannot win a war without steel. I hope that the committee will vote favorably on the sum for this project so that, if the worst should come, we might be ready in a short notice.

NEED FOR CONSTRUCTION

1. Increase the depth of the channel from 7 to 9 feet.

2. Replace six old locks and dams which were built in 1903. The present obsolete locks built in 1903 will only accommodate barges loaded between 50 and 60 percent. This causes a great loss of time and energy.

3. Transportation on upper Monongahela River has increased more than 300 percent in the past few years. Volume of tonnage carried on the Monongahela River in recent years has surpassed the tonnage carried through the Panama

Canal. Annual commerce on this river is estimated between 3½ and 4 million tons annually. It is estimated that the annual benefits will amount to between 4 and 5 million dollars.

4. This appropriation is needed to develop the coal fields of northern West Virginia, the last great deposit of metallurgical coal in the United States. This metallurgical coal is badly needed for the steel industry in Pittsburgh, Pa.; Ohio; and West Va. It is impossible to move this coal by railroad since railroad cars are not available and the mines are unable to work more than 2 or 3 days a week.

5. The development of the Monongahela River has been strongly supported by the National Rivers and Harbors Congress.

6. It is impossible to manufacture steel without metallurgical coal, and it is impossible to win a war and to maintain the economy of the Nation without steel.

NEW MORGANTOWN LOCK AND DAM AND HILDERBRAND LOCK AND DAM NO. 10, UPPER MONONGAHELA RIVER, W. VA.

Senator KILGORE. Mr. Chairman, I would like permission for Senator Neely and I at a later and more convenient time to sum this up before the committee.

Chairman MCKELLAR. We shall be glad to hear you.

(The following statements were submitted for the record:)

STATEMENT OF HUGH L. DAVIS, SECRETARY-TREASURER OF THE PROPELLER CLUB OF THE UNITED STATES, PORT OF PITTSBURGH, PITTSBURGH, PA.

The Propeller Club, Port of Pittsburgh, was organized February 1930. Our membership includes the leading coal, steel, sand and gravel companies. We urge the continued improvement of the upper Monongahela River by the construction of a 9-foot channel to Fairmont, W. Va., replacing antiquated locks and dams Nos. 12, 13, 14, and 15 with two modern structures at Hilderbrand and Opekiska.

The completion of the new Morgantown lock and dam is a great improvement in that area, but with the obsolete locks and dams at 12, 13, 14, and 15 neither the producer or consumer can realize full economic benefits. It is not possible to load barges to capacity. Locks are not large enough to handle a standard Monongahela River tow of 6 barges and towboat. Barges which could be loaded with 900 to 1,000 tons of coal are now being loaded around 550 to 600 tons.

The demand for coal, especially metallurgical coal, for our steel mills in the Pittsburgh area, makes the Monongahela Valley above Morgantown of vital importance in our national economy. Mills and factories must go farther up stream for this vital coal. In the area where the obsolete locks and dams are located there is some 3,000,000,000 tons of coal either on the river or close enough to the river to be transported economically by barge to the steel mills in the lower valley.

Tonnage has shown a very sharp increase in the last 10 years. Lock No. 12 alone has increased from 45,000 tons to over 900,000 tons. Even lock No. 15 at the head of navigation has increased from 36,000 tons to 300,000 tons in 10 years. This could be doubled if a 9-foot project depth were available. This is a most valuable waterway, the small locks do not cope with present requirements.

For the above reasons we urge the Congress of the United States to appropriate sufficient funds for the construction of Hilderbrand Lock and Dam.

STATEMENT BY ROBERT W. HANNA, PRESIDENT, THE VIRGINIA & PITTSBURGH COAL & COKE CO., FAIRMONT, W. VA.

It is indeed a pleasure to appear before this honorable committee to recommend immediate appropriations for the construction and installation of the new Lock No. 10 at Hildebrand on the Monongahela River, in accordance with plans prepared and recommended by the Army engineers.

Our company has operated mines in northern West Virginia, since 1890 and have been shipping coal since 1942 by barges on the Monongahela River from our

Kingmont river dock, located on the Tygart River, 1.2 miles above the junction of the Tygart and West Fork River. It is the southernmost coal-loading dock on the Monongahela or its tributaries. In the past 8 years we have shipped 1,398,218 tons of coal from our dock. The coal is hauled to our docks from small mines in Marion, Harrison, and Taylor Counties, some of it being hauled as much as 21 miles. Due to the shallow depth of the locks and channel, we are limited to loading our barges to approximately 610 tons average per barge—these same barges haul 950 tons of coal from docks located north of Morgantown. Also, the present locks are very short, permitting only the locking through of two barges at a time, whereas, if the contemplated improvements were made, six barges could be locked through at one time. Thus, it is obvious that consumers would make substantial savings in the transportation costs of coal loaded from docks on the upper reaches of the Monongahela if the improvements were made. We are at a very distinct competitive disadvantage with producers of similar quality coals who can and do ship their product in barges where they do load 950 tons in a barge.

The Monongahela River improvement program recommended by the Army engineers after exhaustive surveys had been made by them should be completed immediately in the interest of national defense and our economy as a whole. The mining out of the coals adjacent to the Monongahela River in Pennsylvania makes it imperative that consumers come to northern West Virginia for their coal supply where coal is more abundant. Thousands of acres of metallurgical, byproduct, and steam coals are available for loading on the upper reaches of the Monongahela River by short rail haul and by truck transportation to river docks, provided that proper dams, locks, and channels are completed. Several mining companies have already spent millions of dollars installling new mines and river loading facilities on the Monongahela River, predicated on the natural assumption that within the very near future the river facilities would be improved so that our coal could economically be shipped on the river.

Gentlemen, the Army engineers have told you of the need of, and justification for, the imporvements. I can only assure you that from a practical viewpoint gained from 8½ years' experience of shipping on the Monongahela River, that these improvements should and must be made at once.

Chairman McKellar. Now we have Senator Knowland from California.

Senator Knowland. Mr. Chairman, we have a large number of witnesses who have come across the continent. Some of them have to get back. But we have with us a number of Members of the House who are going to be voting on some important legislation during the afternoon. I thought if it would be convenient to the chairman of the committee, we might hear the Congressmen, or so many as you are able to before you recess, and then proceed this afternoon with the outside witnesses.

Chairman McKellar. Without objection, that will be done.

Senator Knowland. I want to say for the record, and I am not going to take any time here myself, because I want the Congressmen and the witnesses who have come from California to have the time, that my colleague, Senator Nixon, was here earlier in the day but had to go to a meeting of the Expenditures Committee. He is vitally interested in these projects.

I will present the Congressmen in the order of their appearance this morning and not in the order of seniority.

Congressman John Phillips will be heard first.

SAN JOAQUIN RIVER AND TRIBUTARIES

FLOOD CONTROL PROJECTS, SANTA ANA RIVER BASIN, CALIF.

STATEMENT OF HON. JOHN PHILLIPS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

RIVERSIDE, SAN JACINTO RIVER, AND BAUTISTA CREEK LEVEES

Representative PHILLIPS. Thank you, sir.

Mr. Chairman, and gentlemen, my name is John Phillips. I represent the Twenty-second District of California.

I appear here at the request of the Board of Supervisors of Riverside County, one of my counties, and to present to you formally, copies of a statement by the board of supervisors, signed by the chairman, Mr. Irwin Hayden, and prepared by the county engineer, the engineer for the Riverside County flood control and water conservation district, Mr. N. B. Smith.

Now, the statement is complete in itself, and I add to it only this fact, that because of the geography of California, it is necessary for us to run our roads, our railroads, our other means of transportation through rather narrow areas.

The last time we had a major flood in this particular area, the Riverside-San Bernardino area, transportation was completely disrupted for about 3 weeks.

We have not had as heavy a flood as that for 13 years. We have not had a minor flood there for 8 years. Those of us who know the water situation and flood situation in the West know that means that any time now we will have another flood the size of which we cannot yet determine.

CONSTRUCTION OF LEVEES AUTHORIZED

This project that is described in this statement has been approved, signed by the President, more than a year ago, and is part of the larger project which has been under construction for some 10 years.

Chairman MCKELLAR. Let us see just exactly what that project is.

Representative PHILLIPS. The San Bernardino, the Riverside, and the San Jacinto and Bautista Creek levees.

The project has been approved and signed by the President but no money was put in the budget by the Bureau of the Budget.

Now we recognize the situation. We simply call attention to this fact, that every month now we are gambling, ever year we are gambling with nature, and if a flood comes before this continued work has been done on the Riverside levees, we can have a flood which will run many times the amount of the Federal contribution and which can disrupt traffic not only in the entire Los Angeles area but into all the defense installations in the whole outside area of Los Angeles.

RIVERSIDE LEVEE

Senator ECTON. How long would it take to complete this project?

Representative PHILLIPS. How long would it take to approximately complete the lower levees at Riverside, especially those that protect the water supply?

Colonel POTTER. The whole project we would finish in 3 years.

Chairman McKellar. How much has been done on it up to date?

Colonel Potter. Nothing, sir.

Representative Phillips. Nothing on the Riverside levee part, but the upper part of the San Bernardino levee has all been constructed and that throws the water more heavily on the Riverside area which gives us that much increased danger. The last time we had a flood we were shut off for 3 weeks from getting into Los Angeles.

Chairman McKellar. Was that not approved by the budget and the House left it out?

Representative Phillips. That is correct.

I simply say we are gambling from now on both in the House and the Senate. This is no criticism of either House, but we do face the necessity, probably, if we do not do it in the regular procedure of putting this into the next supplemental appropriation or emergency and perhaps at a higher figure if it involves also relief.

Therefore, I have presented the case to you at the request of the board of supervisors and with my own urgent request that you do consider it a matter now approaching the emergency stage.

Chairman McKellar. Do you wish your full statement placed in the record?

Representative Phillips. Yes; if I may.

(The statement referred to is as follows:)

STATEMENT OF THE BOARD OF SUPERVISORS OF RIVERSIDE COUNTY

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT,
Riverside, Calif., July 19, 1951.

UNITED STATES SENATE,
Civil Functions Subcommittee,
Washington, D. C.

GENTLEMEN: The Board of Supervisors of Riverside County, Calif., respectfully request that an appropriation be made at this time in order that work may be commenced upon flood-control projects in the Santa Ana River Basin in this county. These projects were authorized by the first session of the Eighty-first Congress in H. R. 5472 which was signed by the President May 17, 1950. These projects are integrated with similar projects in San Bernardino County.

The appended material gives a brief description of these projects, their estimated cost, and factual data which shows the necessity and urgency of constructing them immediately.

The 1938 flood incapacitated all railroads and highways in the Riverside, Colton, and San Bernardino area. The importance of this is evident when it is realized that the three transcontinental railways and all the principal highways from the East enter southern California through Cajon Pass and San Gorgonio Pass. All shipments by rail or truck into southern California were blocked and for as much as 2 weeks in some instances. A similar flood this year would interrupt commerce into the Los Angeles area and to the Long Beach and San Pedro Harbors as well as incapacitating defense installations.

Construction of these authorized projects will insure that these areas will be able to perform their vital operations without interruption.

The proposed construction consists of earth and rock levees and does not involve the use of critical materials.

Funds necessary to meet the share of costs to be borne locally are now available.

No Federal flood-control projects have, as yet, been constructed for the benefit of Riverside County.

For the foregoing reasons, we sincerely urge that an appropriation be made this year in order that these projects may be constructed before the occurrence of another large flood.

Very truly yours,

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT,
By IRWIN HAYDEN,
Chairman of the Board of Supervisors.

H. R. 4272. EIGHTY-FIRST CONGRESS, FIRST SESSION, SIGNED BY PRESIDENT TRUMAN MAY 17, 1950, AUTHORIZED THE FOLLOWING FLOOD CONTROL PROJECTS IN RIVERSIDE COUNTY, CALIF.

1. *Riverside Levees.*—This project consists of two levees on the Santa Ana River near the city of Riverside with a total length of 24,250 lineal feet. The two levees will protect the northwestern portion of the city of Riverside and the unincorporated community of West Riverside.

Estimated cost of project

Federal	$2,516,000
Local	1,329,000
Total cost	3,845,000

2. *San Jacinto River and Bautista Creek levees.*—This project consists of three levees on the subject streams with a total length of 38,430 lineal feet. These levees will protect the cities of Hemet, San Jacinto, and the Valle Vista communities from flood damage.

Estimated cost of project

Federal	$3,162,000
Local	117,000
Total cost	3,279,000

DESCRIPTION AND NECESSITY

Riverside levees

The proposed construction on the Santa Ana River on the left or east bank consists of 13,900 lineal feet of earth levee, with rock facing which extends from just north of the county line to Mission Boulevard. On the right or west bank, 10,350 lineal feet of the same type of levee are proposed extending southerly from the high ground north of Mission Boulevard to a point 5,000 feet southerly thereof, making a total of 24,250 lineal feet of levee.

Studies by the Corps of Engineers show that floods, discharging as much as 170,000 cubic feet per second, may be expected in this area and that such a flood would cause damage exceeding $2,000,000. The flood of 1938 reached a peak of 100,000 cubic feet per second and resulted in property damage of over $1,300,000. A similar flood at this time would produce greater damage because of the greatly increased development within the area threatened by overflow which has taken place in the past 13 years.

San Jacinto River and Bautista Creek levees

The construction proposed on the San Jacinto River consists of an earth and rock levee on the left or southwest bank of the river extending above and below the city of San Jacinto for a total distance of 20,750 feet.

On Bautista Creek, a tributary of the San Jacinto River, levees of similar construction are required having a length of 15,580 lineal feet on the left bank, extending from the mouth of the Canyon to State Highway 74, east of the city of Hemet, and on the right or east bank from the high ground above Valle Vista downstream to State Highway 74 for a length of 2,100 feet.

Studies by the Corps of Engineers show that floods of 90,000 cubic feet per second may be expected on the San Jacinto River below Bautista Creek. A flood of that size would cause damage estimated at $2,374,000. The 1938 flood had a discharge of 63,000 cubic feet per second and resulted in damage over $1,500,000. Future floods of this size at the present time would cause damage exceeding $2,000,000 due to development in the area threatened by overflow that has taken place since 1938.

Frequency of floods in the Santa Ana River region

According to data assembled by the Corps of Engineers from hydrologic records and historical accounts over the past 140 years, there have occurred a total of 46 floods in the Santa Ana River region, or an average of 1 flood every 3 years. One in every 4 of these 46 floods was classed by the Corps of Engineers as being a large flood, of which 11 have occurred in this 140-year period or an average of 1 every 13 years.

The longest consecutive period of time when no large flood occurred was 19 years, this being between the floods of 1840–41 and 1861–62. The shortest consecutive period of years when no large flood occurred was 1 year, between the floods of 1887–88 and 1889–90. Twice in the past 140 years, periods of 4 consecutive years have occurred with no large floods, once a period of 5 consecutive years, and twice a period of 10 consecutive years have passed with no large floods.

The last flood occurred in this region in 1942–43, and the last large flood occured in the season 1937–38.

This season marks the eighth consecutive year when no flood has occurred, and the thirteenth consecutive year since a large flood has occurred. There are only three other 8-year periods in the past 140 years during which no flood has occurred.

The above facts indicate a strong probability that a flood can be expected during the next year or two, and that one of large size can be reasonably expected within the next 5 to 6 years at the longest, and very possibly before that time.

Therefore, because of facts briefly presented herein, the Board of Supervisors of Riverside County earnestly petition that an appropriation be made this year so that these projects may be constructed before the occurrence of another large flood.

Senator KNOWLAND. The next witness in the order of appearance is Congressman Hubert Scudder. I might just say, Mr. Chairman, that both Congressman Phillips and Congressman Scudder and I served in the Legislature of California together a good many years ago.

STATEMENT OF HON. HUBERT B. SCUDDER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

RUSSIAN RIVER PROJECT, CALIFORNIA

Representative SCUDDER. The Senator is correct. I take pride in the fact that the Senator, Congressman Phillips, and I served on the Committee of Fourteen that wrote the present tax program for the State of California.

Chairman MCKELLAR. I can go back further than that. I served in the House with the splendid Mr. Knowland who is the father of this Senator.

Representative SCUDDER. That was an honor.

Gentlemen, I have two projects in my district, the First District, located in the northern part of California, formerly represented by my very good friend, Congressman Lea, who served here for 32 years.

PLANNING AND SURVEY FUNDS NEEDED

The Russian River project was first started in 1937. Last year we secured congressional authorization for this project. This year we are asking money for survey and planning work, but all planning money was eliminated in the other body.

We found that no appropriations were made available for planning purposes.

Chairman MCKELLAR. What is the amount of planning money you are requesting?

Representative SCUDDER. We asked for $200,000. The engineers recommended $65,000 when the budget was first submitted to the Bureau of the Budget. This was eliminated entirely by the Bureau

of the Budget and by the action of the House. There was set up $65,000 by the engineers, in their first request for money in this project.

AMOUNT REQUESTED

The county of Sonoma has spent over $50,000 on investigation, planning, and survey work. We are asking for $65,000 to get this project started. We are in a critical defense area, the San Francisco Bay district. This project will supply water for irrigation, domestic and industrial purposes, and recreation.

In the Russian River area, there are a great number of homes owned by people in the San Francisco Bay region which would be available for occupancy if there should be an evacuation of that metropolitan district.

We are confronted at the present time with the lowering of the water level and lack of water for the supply of the population, which has increased from 45 to 60 percent since World War II.

The northern part of California is an area in which we did not feel irrigation was needed but the water level has dropped to a point where we must take action to conserve this water.

The city of Santa Rosa alone must spend at least $5 million for a domestic water supply. Now, if this project is developed and they take water from Russian River it will contribute largely to the repayment of the cost of construction.

We have formed a district in the county of Sonoma and another in the county of Mendocino, which comprise the basin of the Russian River. These counties will put up 40 percent of the entire amount of money necessary for this project at the time the project is started.

In other words, we are going to bond ourselves to pay our portion and place the money on the barrel head before the engineers start construction of the project.

Chairman McKellar. Now, will you wait just a minute and let me ask Colonel Potter this question. Has this been passed on by the engineers?

1951 APPROPRIATION REQUEST ELIMINATED

Colonel Potter. This project was authorized in the 1950 authorization bill. We did ask for $65,000 for planning from the Bureau of the Budget for this project.

Senator Knowland. That was eliminated?

Colonel Potter. When the over-all budget came out.

Representative Scudder. I would like to submit a statement. I did not realize that your time was so occupied, and thought we could go into a more detailed discussion of this entire project.

I wish to state that six representatives of this area flew across the continent to testify in favor of this project. Their testimony is shown in part 2 of the printed report of the Civil Functions Subcommittee on pages 182 to 202, inclusive.

I will prepare a statement and I will file it with your committee. I also have a statement from the Russian River flood-control and water conservation district which I herewith submit to be made a part of the record.

(The statement referred to is as follows:)

STATEMENT OF HON. HUBERT B. SCUDDER, MEMBER OF CONGRESS, FIRST DISTRICT OF CALIFORNIA

RUSSIAN RIVER PROJECT

Mr. Chairman, and members of the committee, I appear before you today in behalf of the Russian River project, located in my congressional district in California.

This project, to impound water in the upper reaches of the Russian River which flows through Mendocino and Sonoma Counties, has been under consideration by the Corps of Engineers since 1937, and was authorized by the Eighty-first Congress.

On May 4, 1951, I appeared before the Subcommittee on Civil Functions of the House Appropriations Committee in behalf of this project. Assisting with the presentation at that time were six officials from the counties vitally concerned with the project, sent here to present their plea in behalf of the people and general welfare of that area. Comprising this group were:

James F. Lyttle, chairman of the Board of Supervisors of Sonoma County; Richard C. Miller, supervisor from Sonoma County; Charles J. McGoldrick, district attorney for Sonoma County; Marshall M. Wallace, engineer and surveyor for Sonoma County; J. Mervyn Daw, former mayor and now a councilman for the city of Santa Rosa; and James E. Busch, district attorney for Mendocino County.

All of these men are actively engaged and well informed on matters of flood control and water development. Their testimony appears in pages 181 to 202 of part 2 in the published hearings before the House Subcommittee on Civil Functions.

Two-pronged problem

On one hand, we have a condition resulting from lack of flood control on the Russian River, with $580,000 damage by floods to date this year as estimated by the Corps of Engineers.

On the other hand, there is an alarming shortage of water to meet the industrial development, population increases, and military expansion in this area.

Properly developed, this project could harness sufficient water to meet requirements of the area while, at the same time, correct the dangerous flood conditions that exist.

Location

The Russian River watershed commences in northeastern Mendocino County and runs south through a large portion of Sonoma County to within less than 50 miles of San Francisco. It embraces approximately 1,500 square miles, and is a highly productive and populated area.

Since World War II, the population has increased by 60 percent. Employment has increased by 64 percent, and value of manufacturing enterprises has shown a 236 percent increase. It should be obvious from these figures that the need for water is imperative to meet the impact created by population growth and industrial expansion.

Militarily sound

From a military standpoint and also that of national defense, there are sound arguments in favor of the Russian River project.

This area lies on the fringe of a critical target zone—the San Francisco Bay region. Many of the people from this metropolitan center own homes along the Russian River, which also is the central attraction in one of the major resort and recreational areas of the State of California. In the event of an attack these nearby counties would offer a haven of refuge for the homeless.

The extensive industries located around San Francisco and San Pablo Bays, are looking to the Russian River area as possible sites for decentralization moves.

In setting up adequate defenses on the west coast, military installations within the area are undergoing expansion. Among these are the Hamilton Air Force Base, the Santa Rosa Naval Air Station, Skaggs Island Base, and the Two Rock Army Base.

Adequate agricultural production is important to our economy in peacetime—and highly essential in times of national emergency. The agricultural production of Sonoma County, which is among the 15 leading agricultural producing counties in the Nation, has a total average farm value over a period of the past 5 years of $70,455,902. To this, can be added another $10,000,000 for Mendocino County.

Also in connection with defense, is the present construction material and mineral output of the area which is valued at some $400,000. Not being fully developed due to conditions this project would greatly alleviate, are rich deposits of manganese, copper, and quicksilver.

Local cooperation

The residents of this area, fully realizing the necessity for development of the Russian River project, have formed legal entities through which they are willing to put forth a large share of the costs involved.

The Army Corps of Engineers has asked for planning money in the amount of $65,000 for the Russian River project. This sum was eliminated when the budget was reduced, even though the project and its necessity has been recognized by the House committee connected with Army civil functions appropriations.

In the interest of helping these people overcome the water shortage created by population increases, industrial development, and military expansion—as well as alleviating the costly flood conditions which occur at regular intervals—I respectfully urge this commitee to recommend allocation of the necessary funds required for prosecution of planning in connection with the Russian River project.

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D. C., July 16, 1951.

SUBCOMMITTEE ON CIVIL FUNCTIONS, ARMY,
Committee on Appropriations, United States Senate.

GENTLEMEN: I am in receipt of information from the directors of the Russian River flood-control and water conservation district, Santa Rosa, Calif., in support of their request for planning money for the Russian River project (California) which was authorized by Public Law 516, approved May 17, 1950.

I would apreciate your consideration of these facts.

Sincerely yours,

HUBERT B. SCUDDER.

(The statement reads as follows:)

AGRICULTURAL PRODUCTION RELATING TO DEFENSE EFFORT AND CIVILIAN NEEDS

A total review of the agricultural production of Sonoma County together with the processing operations would be too lengthy because of the fact that this county is among the first 15 in the value of agriculutral products produced in the Nation. However, a few high lights follow:

Field crops including barley, hay, hops, oats, etc., $5,107,853.

Seed and nursery crops for maintenance of full production, $738,500.

Vegetable crops, $303,647.

Fruit and nut crops, $12,373,495, including basic commodities like prunes and apples.

Livestock products including dairy, swine, sheep, cattle, calves, and small animals, $20,074,992.

Poultry products, $31,841,440.

These figures are for the year 1950 and represent a total average farm value over a period of 5 years of approximately $70,455,902.

All of these products, with the possible exception of hops and wine grapes (in consideration of the latter a considerable amount of industrial alcohol where needed has been derived from this product) represent basic food needs, and a very high percentage of the total product was purchased for, and used by, the Armed Forces during World War II. It goes without saying that every one of these agricultural products is dependent upon an adequate water supply, and in addition the average annual loss in production by reason of flood over a period of years has been material.

Inasmuch as the Russian River watershed incorporates part of Mendocino County, and the production in Mendocino County of agricultural products is similar to Sonoma County, we could conservatively add another $10,000,000 to the above totals.

INDUSTRIAL PRODUCTION RELATIVE TO DEFENSE EFFORT

The need for domestic and industrial water within and adjacent to the Russian River watershed is urgent. At the present time almost all of our domestic and industrial and much of the agricultural water comes from wells, and the ground supply is rapidly becoming critically low.

To illustrate why there is an overdraft upon the ground supply, the increased domestic consumption alone in the last 9 years has ranged all the way from 38 percent at Healdsburg through 90 percent for the city of Ukiah to 415 percent in the lower Sonoma Valley area. Only two of our cities derive part of their water supply from surface storage and all the rest of our operations are supplied by wells.

Although Sonoma County's principal advantages for manufacturing have been in the processing of food and lumber products of the region, its short distance from the San Francisco Bay area distributing centers, in conjunction with such assets as good labor relations and employee living conditions and relatively low-cost industrial sites, have attracted a number of specialty manufacturers in various other fields.

While there was a relatively small net increase in the number of manufacturing establishments from 1939 to 1947, there was a 64 percent increase in the number employed and a 236 percent jump in the value added by manufacture to $19,146,000. During 1948 and 1949 seven new plants were added, with a capital investment of $775,000 and there were three sizable plant expansions with $425,000 invested.

Included in the 1947 census were 96 food and kindred products establishments, 6 of them very large, and 21 of them ranging in size from 20 to 99 employees. Payrolls, of $4,211,000 in 1947 were 54 percent of the county total. Wineries, poultry packing plants, dried and canned fruit packing plants, milk processing plants, stock and poultry feed mills, breweries, bottlers of soft drinks and mineral waters, and frozen food products are included in this leading group of industries. In 1948 the county produced 8,064,000 gallons of table wines and 1,016,000 gallons of dessert wines.

Lumber and basic products were second in importance, with 27 plants, 5 of them large enough to employ between 20 and 100. Included were several redwood lumber sawmills, plywood plants, box factories, and a number of planing mills. Closely related furniture and fixture plants, according to the Bureau of the Census, were four. Department of Empoyment records for the third quarter of 1947 show 40 establishments in these two categories, employing 313 and with annual payrolls of $851,000. Important plywood and furniture plants have been added since 1947.

To illustrate the big increase in industrial production, the number of expansions in 1949 amounted to $125,000 of investment and in new plants of $715,000. In Sonoma County during 1950 the capital invested in new plants was $485,000 and in plant expansion $665,000, making a total of $1,150,000. During the first 5 months of 1951 the total investment in new plants or plant expansions in Sonoma County was $990,600 and this program is currently increasing at a larger rate.

Practically all of these new plants or plant expansions were in the food, leather, and machinery classifications which have much to do with the defense effort, and all of these are dependent upon an adequate industrial water supply which will be provided by the Russian River water conservation projects as recommended by the Corps of Engineers, United States Army, and the State Water Authorities of California.

DOMESTIC REQUIREMENTS

Typical of the urgent need for additional water conservation in the Russian River watershed is the situation with regard to the city of Ukiah in Mendocino County. Following are some excerpts from an economic survey just completed by Industrial Survey Associates for the Board of Supervisors and the Mendocino Chamber of Commerce.

With the rapid growth of Ukiah and vicinity, the assurance of a continuing adequate water supply has become a serious problem. The city gets its domestic water from three wells, and the level of the water table is considered to be dependent on the Russian River, whose summer flow is derived in part from the diversion of water from Lake Pillsbury by the Pacific Gas & Electric dam and canal. The Potter Valley irrigation district has applied to the State

division of water resources for the privilege of taking 150 second-feet from the dam—about three times what they have previously been using. Ukiah's summer consumption of 2 million gallons a day, according to the city manager, could not be provided for if any further withdrawals of water were permitted at the river's source.

A comparable situation is true with regard to every community in the Russian River watershed from south-central Mendocino County to very nearly the whole Sonoma County. This is true because the water-conservation features of the Russian River project obviously must be relied upon to serve almost all Sonoma County communities and even be prepared to serve Marin County and perhaps part of Solano County. With the present overdraft on the ground supply there is no other apparent solution to the water needs of this whole area than the recommended storages in the Russian River Basin.

FOREST PRODUCTS

Forest products utilized in the Russian River watershed have a basic relationship with the defense effort. Much of the lumber including plywood, goes into defense installations as well as direct operations like the manufacture of pallets for the handling of cargoes. Where redwood is necessary this is one of the few areas where redwood is manufactured into useful lumber products.

It is not possible on short notice to give an exact estimate of production, but we are advised by the State division of forestry that 60 sawmills in this watershed produce about 291,000,000 board feet annually. To this should be added the produce of 15 shingle mills, a number of specialty product mills, and the large produce of the Masonite Corp. at Ukiah.

MILITARY INSTALLATIONS

Many factors have recently come into the picture which will make our water situation even more precarious. First, the reactivation of the Santa Rosa Naval Air Base, employing some 2,500 personnel. Second, the Two Rock Military Base and the base at Skaggs Island, both of which are constantly increasing and demanding more and more water resources. Many of the families of personnel at Hamilton Field have their homes in this county, and Mare Island, the southern end of the Russian River watershed, is increasing its personnel by leaps and bounds, causing a further drain on our ground water level.

It is a moot question as to how long Sonoma County will be able to supply the increase in both military and civilian population from our constantly decreasing ground water. More and more, defense industries are following the decentralization program and many of them are looking to Sonoma County for plant sites. One in particular requested figures on the acreage that we would supply at a certain price. This acreage is available. However, they required 500,000 gallons of water per day, which we definitely cannot supply with our present resources. Many vital defense plants are shut out of Sonoma County for this reason.

NOYO HARBOR PROJECT, CALIFORNIA

Representative SCUDDER. I am interested in another project in my district, for which three outstanding citizens of the area flew across the continent to submit plans to the Congress, and that is the Noyo Harbor project. This is a request for an appropriation. The project was approved many years ago. It is now an operating harbor, some 250 commercial fishing boats operating out of the harbor.

Chairman MCKELLAR. How far from San Francisco is that?

Representative SCUDDER. About 135 miles north of San Francisco. It could be made into a safe refuge harbor if funds were provided, at the present time, the development is incomplete. The boats are sandwiched in there side by side and when a storm comes up they do not have protection and have lost considerable of their equipment.

They harvest a vast amount of fish. They also have processing plants and the fish are shipped throughout the entire country.

CONSTRUCTION OF BREAKWATER

These people are asking for some money to start the development of an outer breakwater which has long since been approved by the Congress but no money has been made available. They have a natural base for construction. There is some preliminary work that could be done if the Congress only saw fit to appropriate a part of this money; I believe it could be worked out in steps.

There is a hazardous rock at the very entrance to this harbor that makes it extremely dangerous for ships to enter. I think these fishermen are entitled to some consideration on account of the amount of tonnage that goes through that harbor. Men have been drowned, equipment has been lost. The harbor is so hazardous that the insurance rate is 22 percent per hundred per year, so you can see what the insurance companies think about Noyo Harbor.

Senator KNOWLAND. May I ask Colonel Potter, what the situation is? Are you in a position, if funds were made available, to start work?

Colonel POTTER. The breakwater, I believe, sir, would take some model work so that we would be sure to have the breakwater in exactly the right position. We have had $12,000 made available for that breakwater.

Chairman MCKELLAR. When was that done?

Colonel POTTER. That $12,000 was made available prior to 1950, sir. I do not believe it was enough to finish any necessary model work which we would require before we could do any construction. I would say the model would take about 3 to 4 months to complete all the necessary tests and subsequent to that we could draw up the plans and specifications.

AMOUNT FOR PLANNING MODEL WORK

Senator KNOWLAND. What would be required in the way of funds to complete the model work?

Colonel POTTER. Subject to correction, I would say about $25,000 or $30,000.

Senator KNOWLAND. Will you check and give us the figure?

Colonel POTTER. Yes, sir.

(The information referred to is as follows:)

The amount need for completion of the model work on the Noyo breakwater project on a check made by the Corps of Engineers is $50,000.

Representative SCUDDER. I would ask to file my statement in support of the Noyo Harbor project.

Chairman MCKELLAR. That may be done.

(The statement referred to is as follows:)

STATEMENT OF HON. HUBERT B. SCUDDER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. Chairman, and members of the committee, I appear before you today in behalf of the Noyo Harbor project, located within my district of California.

On May 4, 1951, I presented a similar statement to the Subcommittee on Civil Functions of the House Appropriations Committee, in addition to a personal appeal. Appearing with me at that time were three spokesmen from Mendocino County, sent here to appear in behalf of the project. They were Mr. Frank J. Hyman, member of the Noyo Harbor Commission and president of the Fort Bragg Chamber of Commerce; Mr. Ray Welch, chairman of the Noyo Harbor committee of the Fort Bragg Chamber of Commerce and secretary of the Inde-

pendent Fishermen's Union there; and James E. Busch, district attorney for Mendocino County.

Their presentation greatly impressed the House committee and the testimony may be found on pages 175 to 181 of part 2 in the published hearings before the House Subcommittee on Civil Functions of the Army.

First-hand accounts of the hazardous conditions existing at Noyo Harbor were presented to the committee by Mr. Welch, who has been actively engaged as a fisherman for many years. Graphically illustrated were the conditions under which the fishermen operate in being unable to regain entry to port after having set out to sea. High seas arise at regular intervals, blocking the mouth of the harbor, and threatening to capsize boats on the rock coastline.

POOR INSURANCE RISKS

As a result of the hazardous conditions under which the fishermen operate, damage to boats and equipment each year amounts to thousands of dollars—with bodily injury and possible loss of life an added threat.

Most marine insurance companies refuse to insure equipment operating from this harbor, and those who do carry insurance have a rate of 22 percent per year, which is prohibitive to the economy of the industry.

As the operator of a fleet of fishing boats and a wholesale fish dealer, Mr. Hyman cited many instances when it was necessary to operate out of another harbor due to unsafe conditions at Noyo.

This has a definite bearing on the economic stability of this section of California as fishing is an important industry. The effect on the county of Mendocino as a whole, was illustrated by Mr. Busch in his testimony before the committee.

MULTI-MILLION-DOLLAR INDUSTRY

There are some 250 fishing boats registered out of this port. Six large fish receiving and processing companies have their plants located at Noyo and are responsible for the catching of nearly 9 million pounds of fish annually. The labor in fish plants alone for receiving and processing the fish caught amounts to almost a quarter of a million dollars a year. Boats and equipment operating out of this harbor have a value of $1,200,000 and the shore equipment for handling this industry has a value of $895,000.

CONSTRUCTION AUTHORIZED

Noyo Harbor is located about 135 miles north of San Francisco. It was authorized by the Federal Government many years ago, and since that time a sizable amount of Federal funds have been invested toward improvement and maintenance.

In 1945 Congress recognized the necessity for a jetty to protect the outer harbor and authorized its construction. However, due to conditions following World War II, this project was not carried out. The Corps of Engineers has estimated the cost of constructing a model breakwater and subjecting it to necessary tests, will amount to about $25,000.

This is a small investment when you take into consideration the fact that a multi-million-dollar fishing industry, providing a necessary portion of the food requirements for the Nation and the Armed Forces, must operate under hazardous conditions that greatly retard production.

The project is simplified in that a natural reef exists upon which the breakwater could be constructed to protect the outer harbor from the heavy seas. It is not unusual for a fleet of fishing boats to be tied in port for many days at a time because of conditions in the jetty mouth. This could be eliminated by the construction of this breakwater.

DEFENSE ASPECTS

During World War II, the Government maintained an air-sea rescue craft at Noyo Harbor. However, in answering an emergency call, the craft was severely damaged and the entire crew hospitalized due to injuries suffered when the boat capsized while attempting to get through the jetty mouth.

Located where it is, Noyo Harbor could also be utilized as a refuge for small vessels plying the coastal waters during time of war, or other emergency.

This is a very vital project and although recognized as such, the present policies regarding appropriations necessitated its being bypassed by the House committee. I sincerely urge this committee to give Noyo Harbor project their fullest consideration, and make the necessary recommendations which may bring about construction of the vitally needed breakwater.

HOUSE ACTION ON PLANNING FUNDS

Senator ECTON. These projects were all presented to the House committee this year?

Representative SCUDDER. Yes; they were, and these are the hearings I have indicated.

They made a very fine presentation. In fact, one of the members on the committee paid particular significance to the request of the people from Noyo, that that was the type of project he felt was of great worth and had a lot of merit. They only wished the plan was such that they could develop the project, but that policy was not to start a new project, but we could get the planning in size and shape so we would be in a position at a future time to get an appropriation but not now.

Chairman MCKELLAR. Was the policy of no planning money passed on by the House or by the committee?

Representative SCUDDER. The committee developed a policy of no planning money.

Chairman MCKELLAR. It was never voted on by the House?

Representative SCUDDER. That is right. They established a policy of no planning money and no new projects until the present projects were completed.

Thank you very much.

Senator KNOWLAND. In order of appearance is Congressman Tom Werdel.

STATEMENT OF HON. THOMAS H. WERDEL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Representative WERDEL. Mr. Chairman and members of the committee, we in the other body are very happy to know that we can rely upon the ability and attention that our Senator from California, Mr. Knowland, provides us in this body.

Chairman MCKELLAR. He is very active and a successful man ordinarily.

Representative WERDEL. He certainly understands these subjects in California very well and we are grateful that he gives his attention to them.

This committee will also be privileged to see one of the best presentations of the details of a difficult subject that you have been privileged to see when the witnesses from California cover this subject this afternoon. I will leave the detail of the subjects to the witnesses to follow. There are one or two points that I do want to discuss with the committee.

First I want to point out that the velocity of the streams on the west side of the Sierras are very high as they rush from 14,000-foot elevations to the 300-foot elevation of the San Joaquin Valley. This is done in a distance comparable to the distance between Washington, D. C., and the city of Baltimore. When that velocity decreases, it

drops materials carried in floods very rapidly. The result is that river deltas are built up so that river beds are often many feet higher than the surrounding country side.

Floods are usually the result of melting snows in high elevations. I want to direct the committee's attention to the fact that the Congress is not performing its duty when it authorizes a project and then delays its completion. This is particularly true when hundreds of thousands of people rely upon the authorization and expressed intent of the Congress and settle in areas threatened with flood. In the south end of the San Joaquin Valley many people with very limited means have settled in the flood areas. They have come from all parts of the United States. They settled in areas and invested their life's savings in areas where people would not have settled if Congress had not authorized and commenced the construction of flood-control facilities on the Kings and Kern Rivers over 10 years ago. Last fall, we had a very serious threat to the complete destruction of tens of thousands of such settlers on the lower reaches of those rivers. It was only by the grace of God and the excellent work of local government agencies and individuals that the destruction was avoided. Great damage was experienced by those floods which has already been reported to this committee.

In the past, the Senate and House have followed the recommendations of the Army engineers in connection with the Kings and Kern Rivers. The plan of the Army engineers is to complete construction on the Kern River in the fiscal year following the one now under consideration. Inasmuch as the Isabella Dam on the Kern River is an earth-filled dam, the plan of the Army engineers should be followed.

I also want to point out that the Tule and Kaweah Rivers also empty into Tulare Lake as do the Kings and Kern Rivers. They thus are part of the same flood-control plan. The Army engineers in the past and again this year have made recommendation for appropriations to commence construction on the Tule and Kaweah Rivers. The California Water Board has again recommended $500,000 to commence construction on each of those streams this year. It is obvious that if the planned control of floods is to be accomplished in the south end of the San Joaquin Valley, the Tule and Kaweah Rivers must also be controlled. Appropriations have been made in the past for studies and planning. Those studies and plans are completed by the Army engineers. No appropriation has yet been made to commence construction on the Tule and Kaweah Rivers.

I also want to point out to the committee that I believe it is incumbent upon the Congress to designate certain funds to pay for the properties necessarily condemned for flood-control purposes. In this connection, I direct your attention to Isabella Dam. At one time the county seat of Kern County was located a few miles from the area to be flooded by Isabella Dam. There are many old ranches in that area and valuable mining properties. Those people have been notified to move from their homes and of course they must follow the Government's order. Yet, nothing has been done on a rising market to pay them for their old homes in order that they may buy new residences. I do not think any criticism of the Army engineers can be made on this subject so long as they use funds for construction purposes appropriated by the use of general language by the Congress.

That is particularly true when they have insufficient funds to accomplish the purpose that they desire to accomplish each year.

I respectfully suggest that some thought be given to this subject in the appropriations made this year.

Senator KNOWLAND. Might I ask, Colonel Potter, what is your present plan for completion of Isabella?

Colonel POTTER. We are scheduled to make closure in July 1952. After the appropriation for this year, if it is near what was requested, there will still be $4,800,000 to come. So I would say in 1953, Isabella will be finished.

Mr. WERDEL. It is our expectation that the Congress will fulfill its obligation to the people of the area in 1953, and we hope that the intentions of the Army to be able to control a flood in the spring of that year will be acocmplished.

For Success and Terminus, the two other reservoirs referred to by the Congressman, the plans are ready to start construction.

Senator KNOWLAND. The next witness, Mr. Chairman, is Congressman Allan Oakley Hunter.

I apologize to Congressman Johnson, who is one of the senior members, but I have been taking them in the order of their arrival.

Representative JOHNSON. That is all right. I was the last one to come in.

STATEMENT OF HON. ALLAN OAKLEY HUNTER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

PINE FLAT DAM AND RESERVOIR, KINGS RIVER, CALIF.

Representative HUNTER. Mr. Chairman and members of the committee, I will just take a few minutes. I might point out on the map here the projects in which I am interested.

I am the Representative from the Ninth District of California.

What Congressman Werdel had to say about the topography of his district applies to mine which comprises the counties of Fresno, Madera, and Stanislaus. In that area are three projects, Cherry Valley project being undertaken by the two irrigation districts, the Turlock and Modesto, and also by the city and county of San Francisco. There will be two gentlemen here this afternoon from those districts, Mr. Kidd and Mr. Crowell, who will testify in support of the project and there is very little I could say which will add to what they will furnish.

Now, there is also the Kings River project here which is known as the Pine Flat project. Mr. Kaupke, the Kings River watermaster, is here now, and he will testify this afternoon. He has been watermaster I do not know how many years, since I was 1 year old, I believe. So I do not dare contradict what he may have to say on the subject.

Chairman MCKELLAR. I did not get the third project. You said there were three.

Representative HUNTER. The two I have mentioned are the Cherry Valley, which is in Stanislaus and San Joaquin Counties, and then the Pine Flat. The third is the Merced County stream group.

Now, before I proceed further, I would like to submit a prepared statement in behalf of the Pine Flat Dam project with your consent.

Chairman McKellar. Yes, sir; that may be put in the record at this point.

(The statement referred to is as follows:)

PINE FLAT

The Pine Flat Dam and Reservoir on the Kings River of California lie within the Ninth Congressional District, which I represent. About 60 percent of the project's irrigation benefits and 10 percent of its flood-control benefits will be realized by the people of the Ninth District. The remaining 90 percent of flood-control and 40 percent of irrigation benefits will accrue to the people of the Tenth District, represented by my friend and colleague, Thomas H. Werdel.

The project was authorized under the Flood Control Act of 1944 after a finding by the Secretary of War that it would be economically justified for its flood-control features alone. The Pine Flat Dam, which will impound 1,000,000 acre-feet of Kings River water, is now being constructed by the Corps of Engineers, Department of the Army. To date, the Congress has appropriated $22,165,000 for the Pine Flat project. Rapid progress is being made with the pouring of concrete, and the Corps of Engineers expects to have the project completed by January 1954, provided money is made available. The total estimated cost of the project is $51,000,000.

In coming before this committee to urge that adequate appropriations be recommended for Pine Flat construction, I am fully aware that the present national situation requires the utmost economy in all nonessential spending. The Pine Flat project, however, is in the fullest degree essential. It is needed to safeguard the immensely valuable food and fiber production of the 1,000,000-acre Kings River service area. It is needed just as urgently to help protect lines of communication that are an indispensable part of the defense effort.

During last November and December floods in the Central Valley of California caused damage in the amount of at least $32,000,000, a substantial part of which was suffered by the farmers of the Kings River area. Even more important to the defense effort, high water on the San Joaquin River, of which Kings River is a tributary, for several days cut off access to the port of San Francisco over two transcontinental railways and one major highway. A substantial part of the water which thus came near to isolating a major Pacific-coast port came from the flooded Kings River.

I submit that this fact alone puts the Pine Flat project into the essential category. There have been disastrous floods on the Kings River many times in the past; such floods occurred in 1906, 1907, 1909, 1911, 1914, 1916, 1937, 1938, 1945, and 1950. No man can predict when history will repeat itself.

Another matter which deserves the attention of this committee is the fact that last November and December many thousands of acre-feet of Kings River water ran into the San Joaquin River through Fresno slough and were lost to the area. That water is now desperately needed for irrigation, as the winter just ended was deficient in snowfall and the spring runoff of the river is expected to be not more than 60 percent of normal. Had the Pine Flat Dam been completed and in operation that water would have been saved by the use of the dam for flood control, and it now would be available. In respect to winter floods caused by rain instead of snow, history also may repeat itself at any time, and it is doubly necessary to finish the Pine Flat project as soon as possible both to prevent flood damage and to save water.

The Kings River water users, who began working for a dam at Pine Flat as long ago as 1909, have been diligent in their efforts to organize themselves in order to contract with the United States for the use of storage space in the Pine Flat Reservoir and repay the part of the project's cost which is properly chargeable to irrigation. They recently sponsored, and the State legislature passed, an act creating a single public district to include the entire Kings River service area. This legal entity, known as the Kings River Conservation District, is empowered to negotiate and sign a repayment contract with the United States on behalf of all the diversion agencies on the river. This would greatly simplify and expedite the process.

After hearings at which local interests were represented, the Division of Water Resources of the State of California recommended that the Congress appropriate $10,000,000 for Pine Flat construction during the next fiscal year. I respectfully urge this committee to accept that figure as a sound estimate of the project's needs and in turn to recommend it to the Congress.

If construction progresses at its present rate the Pine Flat Dam will be high enough by the winter of 1952 to provide some flood protection, and by the winter of 1953 it will furnish considerable flood protection. In my opinion, work on the Pine Flat project should be continued at the most rapid possible pace. It will be so continued if the money is made available.

MERCED GROUP PROJECT, CALIFORNIA

Representative HUNTER. I would also like to submit a statement in connection with the Merced stream group project.

Mr. Glenn Fountain, member of the Board of Supervisors of Merced County, had hoped to be here but was unable to make the trip. He would have represented the county of Merced, the city of Merced, and also the Merced Irrigation District. So I ask permission to introduce this statement.

Chairman MCKELLAR. That may be put in the record.

(The statement referred to is as follows:)

MERCED STREAM GROUP PROJECT

The Merced stream group project was authorized by the 1944 Federal Flood Control Act and provides for constructing four flood-control reservoirs: The Bear Creek, Owens Creek, and Mariposa Creek Reservoirs in Mariposa County, and the Burns Creek Reservoir in Merced County; for diversion canals from Owens Creek to Mariposa Creek and from Black Rascal Creek to Bear Creek.

State authorization was provided for under chapter 1514, Statutes of 1945.

PRESENT STATUS

Federal appropriations to date total $1,790,000; Mariposa, Owens, and Burns Creek Reservoirs are completed. There remains to be constructed the following:

Bear Creek Dam at an estimated cost of	$645,000
Black Rascal and Owen Creek bypasses, at an estimated cost of	265,000
Total amount required to complete project	910,000

ACCOMPLISHMENTS OF THE PROJECT

When completed, the project will give flood protection to some 136,00 acres in Merced County, much of which is intensely cultivated, including the city of Merced and surrounding heavily populated area, and the communities of Planada, Le Grand, and Tuttle.

FLOOD CONDITIONS THIS YEAR

Even with the Mariposa, Owens, and Burns Creek Dams completed, the effect of the November 1950 flood was the most disastrous in many years. The floods in this area came in November and December, which only on very rare occasions happens at this time of the year. Usually the flood season is in April and May.

JUSTIFICATION FOR EXPEDITIOUS COMPLETION

Because of the diversion features and the close interrelation of the areas subject to flooding from this group of streams, all project features are integrated and full benefits cannot be realized from individual structures until the project is completed as a whole. For instance, Bear Creek affords the greatest threat to the city of Merced and environs, and that threat will not be removed until Bear Creek Reservoir is completed and in operation.

HEALTH

The recent overflow of Bear Creek, which occurred twice during the past winter months, produced a serious health hazard in those inundated areas. In recent times, areas of dense habitation have developed in the paths of the above-mentioned Bear Creek. One such area is at the corner of Kibby Road and United States Highway No. 140, which continues then to Childs Avenue, and on to the Weaver Union School at Childs and Coffee Avenues.

This flooding not only caused damages to homes and generally unhealthy conditions, but also caused flooding of septic tanks and wells. The Weaver Union School well remained polluted for over 45 days, because it was below the heavily populated area at Kibby Road and United States Highway No. 140, where there are about 100 homes, wells, and septic tanks.

It is the health officer's opinion that the flooding of these wells by this sewage contaminated for some time the underground water strata. This is just one specific example of many such situations resulting from the overflow of Bear Creek.

A number of Army families live in the area.

The health officer of Merced County urgently requests that serious steps be taken for the badly needed flood control on Bear Creek.

AGRICULTURE

Estimate of flood damage to agriculture in the area comprising the Merced Stream group, based upon spot checks and information secured from growers:

Alfalfa, 6,500 acres:	
2,200 acres flooded:	
1,600 damaged, immediate loss of feed, partial loss of stand	$48,000
600 total loss at $130 ($80 loss of crop plus plowing, leveling, checking, and reseeding $50)	78,000
Permanent pasture, 11,000 acres:	
3,000 acres damaged, $10 per acre loss of feed, reduction in stand	30,000
200 acres lost (plow, level, check, and seed)	14,000
Cotton: 400 acres, ½ bale per acre	26,000
Grain (barley, wheat, oats): 700 acres drowned or washed out	42,000
Milo: 400 acres not harvested	24,000
Turkeys: 3,000 heads at $6.50	19,500
Livestock	3,500
Rice: 120 acres not harvested	30,720
Feedstuffs: water damaged	10,000
Almonds, 1,000 acres: sour sap, gummosis, decrease in production	10,000
Peach, nectarine, and apricot: Erosion, sour sap, gummosis, rot, decrease in production	10,000
Figs: Erosion, improper pruning and timing of applications of insecticides and fungicides, decrease in production	15,000
Farm buildings, fences, etc	65,000
Total	425,720

FLOOD DAMAGES AS ESTIMATED BY THE CORPS OF ARMY ENGINEERS

The immediate flood damage in the November and December floods of 1950 as of surveys by the Corps of Army Engineers is estimated as follows:

Damage on Bear Creek above Bear Dam site	$5,000
Damage on Mariposa Creek above Mariposa Dam	82,000
Damage on Bear and Burns Creeks below Burns Dam and below Bear Dam site	275,000
Damage on Mariposa and Owens Creeks below Mariposa and Owens Dams	33,000
Total damage	395,000

During the November-December 1950 floods the dam recently completed on Burns Creek prevented approximately $2,200,000 damage, most of which would have occurred in the city of Merced. The completed Mariposa and Owens Dams prevented damage estimated at $300,000.

MILITARY ESTABLISHMENTS

We have Castle Air Force Base, a large B–50 bomber base, adjacent to this flood area. Many of the personnel live in the flood area and at times it is difficult for them to get to the base. The base is furnished with gas and power lines, which run through Merced, and a hazardous flood could cut these lines and impair the operations of this air base for national defense.

SCHOOLS

Weaver Union School was seriously flooded from Bear Creek endangering the lives and health of some 500 pupils. Other schools were badly endangered by

these floods. These schools obtain their domestic water from wells on the ground. There is no other available source of domestic water.

COMMUNICATIONS

The Bell Telephone trunk lines traverse through this section from San Diego, north to San Francisco and the bay area extending to the Canadian border. Also Western Union Telegraph lines. These lines are both underground and overhead.

POWER AND GAS

The Pacific Gas & Electric Co. has many high-tension power lines crossing through the Merced Stream group area. Also, natural gas trunk supply lines that furnish natural gas to many of the communities between southern California, San Francisco, Oakland, and the bay area, where many key defense industries are established.

HIGHWAYS

Highway 99 running from the Canadian to the Mexican border travels through this area, also, the All-Year Highway to Yosemite Valley, which during World War II had extensive Army and Navy travel. Many farm-to-market roads in the floods in November and December were inundated—some of them for several weeks. The estimated damage by the Merced County road commissioner on farm-to-market roads in the Merced Stream group is $55,315. This estimate was made some time ago and many of the roads are breaking down and will probably cost twice that amount to replace.

TRANSPORTATION

Railroads.—The Southern Pacific Co.'s main line from Los Angeles to Seattle runs through the area flooded by the Merced Stream group, as does the Santa Fe from Los Angeles and San Diego to San Francisco, Oakland, and the bay area. Both lines handle a heavy traffic of food and fiber and military supplies. These roads carry main line traffic from the east, and are used as carriers of military personnel.

Trucks.—One of the largest truck lines in California, Miles & Sons, which operates all over the State, has its main terminal in Merced. This truck service was severely interrupted by the floods and at times there was a complete shut-down on transportation of their lines and many other truck lines. About 40 percent of Miles & Sons business is for the national defense program.

FOOD PROCESSING PLANTS

We have many canneries and food processing plants in this flood area. The largest of these is the Bear Creek cannery and the Yosemite Freeze plant, which are combined. This is a statement of their 1950 production summary:

Product	Daily capacity, basis 24 case	Frozen	Canned	Month
Broccoli	4,000	300,000	----------	November to March.
Sprouts	2,000	40,000	----------	
Spinach, fall	3,000	100,000	100,000	November to December.
Spinach, spring	3,000	100,000	100,000	March to April.
Asparagus	3,000	140,000	60,000	April to May.
Cauliflower	2,000	50,000	----------	
Boysenberries	4,000	40,000	40,000	June.
Strawberries	4,000	100,000	----------	May to June.
Corn on cob	5,000	200,000	----------	June to September.
Cut corn	2,000	75,000	75,000	June to October.
Apricots	10,000	----------	200,000	June to July.
Freestones	5,000	150,000	100,000	August to September.
Kadota figs	5,000	----------	100,000	September to October.
Applesauce	3,000	----------	150,000	November to January.
Miscellaneous preserves	3,000	----------	300,000	
Total	----------	1,295,000	1,225,000	
Grand total	----------	2,520,000		

Sixty to eighty percent of the processed foods are contracted by the United States Quartermaster Corps, all of the figs are contracted by the United States Quartermaster Corps. The November and December floods isolated their cannery and freeze plant, filled their drainage sumps, which are still full of water from the floods, and drove all the rats in that area into the cannery and freeze plant making a health menace in that area.

The Planada Packers operate a cannery in the flood area which will process for the coming year: 175,000 cases of figs, peaches, and apricots, of which 75,000 cases (estimated) of figs will go to the Armed Forces.

Ayers & Held operate a dried-fruit packing plant 1 mile from Bear Creek. Production for the coming year is estimated at: 200 tons of figs, 20 tons of prunes, 20 tons of apricots, 20 tons of dates, 10 tons of pears, 8 tons of peaches, plus other fruits and nuts.

This firm lost all its shipping cartons during the November flood.

Ayers & Held expect to deliver a substantial portion of its tonnage to the Armed Forces.

There are several other firms in this immediate area which process foodstuffs.

IRRIGATION

The Merced irrigation district is in the heart of the flood area and the storms this season have done an estimated damage to their canals of over $9,000. This system irrigates all the land under irrigation in the Merced stream group, and is very important in the production of farm produce for national defense. Lands flooded year after year build up underground water and interfere with agriculture and commercial business and necessitate installment and operation of extensive drainage wells.

HOMES

Many homes in Merced and surrounding country were flooded. Wells were filled with water, some furniture ruined and a great damage to structures proper.

INSURANCE COMPANIES

The farmers insurance group is completing a branch office south of Merced between Bear Creek and Mariposa Creek along the Southern Pacific Railroad and Highway 99. This office will employ 350 people now—in a year or so, a complement of 500.

REQUEST FOR FUNDS

Request for funds is $910,000. This request has been approved by the State water resources board. Assurance by the Corps of Engineers that the entire amount can be used in the fiscal year of 1952. The President's budget carries the sum of $265,000; this is the amount required for diversion canals alone.

MERCED GROUP PROJECT RESERVOIRS

Representative HUNTER. Now, I would like to elaborate on the Merced group project because there is no one from the district to testify other than myself; this is not a very large project and sometimes I am afraid that it will be forgotten. It was authorized under the Flood Control Act of 1944. It is comprised of four small reservoirs. They are known as the Burns Creek, the Mariposa Creek, the Owens Creek, and also the Bear Creek, and then two bypasses or diversion canals, known as the Owens Creek bypass and the Black Rascal Creek bypass. Three of the reservoirs have been completed, which leaves only the Bear Creek Reservoir and the two bypasses.

TOTAL ESTIMATED COST FOR COMPLETION

Now, the combined estimated cost for completion is $910,000.

1952 BUDGET ESTIMATE

The Director of the Budget, however, has only provided $265,000. Incidentally, this is the area [pointing to map].

Chairman McKellar. What did the House do about it?

Representative Hunter. The House, unfortunately, cut it out entirely on the theory that because this dam had not been started, its construction could be delayed.

However, the effective operation of this stream-group project depends, I believe, on its completion. The fact that the Bear Creek Reservoir had not been completed resulted in considerable flooding in the city of Merced during the California floods last November and October.

I believe the Army engineers would be very happy to get this off their books because it is practically completed. I believe they agree with me that to continue discussing it from year to year would actually involve more expense than finishing it. The total cost, as I say, is $910,000. There was authorized in the budget only $265,000 this year, which would involve just the two bypasses. The cost of the dam itself would be $645,000.

Senator Knowland. Might I ask Colonel Potter at this point: You do not need planning money as far as Bear Creek is concerned?

Colonel Potter. The planning is all done.

COSTS PER DAM

If you will excuse me, sir, I would like to call the chairman's attention to the fact that here is a group of four small dams, each one of them costing a little over $500,000 apiece, and three of them are completed.

In the big flood of November 1950 in California the stream below those three was completely protected against the flood and was the only part of the Central Valley that had protection against the flood. They operated perfectly and did the job they were planned to do.

Senator Knowland. Perhaps if we had more of our dams completed in the Midwest, we would not have had these floods that we have had the last week or so in Kansas and Missouri.

I agree with the chairman that I think there are some of these projects which are really an investment, capital investment, in the future of America that will in the long run prove economical once they are completed.

Chairman McKellar. As far as Kansas City is concerned, General Pick testified that we appropriated the money for those three dams up there, but there was such a row going on that they did not have an opportunity to finish the dams. I believe they got an injunction. They had all kinds of litigation or other troubles.

Colonel Potter. A very important fact, Senator, is that former Senator Capper, who owns a chain of newspapers in Kansas, and who used to be opposed to these dams, came out this week and said that they were reversing their policy and he and his newspapers are for these projects.

Chairman McKellar. That is gratifying.

General Pick testified that if we had put up the $300 million necessary to build these three dams in Kansas, that there would have been no Kansas City flood at this time. I think he is right.

It seems amazing to me that there should be a controversy of that kind.

Representative HUNTER. I would like to say in connection with the Merced stream group that there is no opposition whatsoever in the area and there is absolutely no rivalry between any of the Government agencies. The Bureau of Reclamation has no interest in this particular project and is perfectly willing for the Army engineers to complete it. Had it been completed, much of the damage which was caused during last year's flood would have been avoided, which ran into several hundreds of thousands of dollars.

Senator KNOWLAND. Mr. Chairman, the last witness and the last Congressman who is here at this time is Congressman Leroy Johnson, representing the Third District of California.

STATEMENT OF HON. LEROY JOHNSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

FOLSOM DAM PROJECT, CALIFORNIA

Representative JOHNSON. Mr. Chairman and gentlemen of the committee, I am here in behalf of a number of projects.

Before I present my statement, which will be very brief, I would like permission to include a statement by Mr. Walter B. Hogan, who has been hired by a group of people in San Joaquin County and the interior of California to present a statement on the projects.

Chairman MCKELLAR. Without objection, that may be done.

(The statement referred to appears following Congressman Johnson's statement.)

Representative JOHNSON. The first one I wish to discuss today is Folsom Dam. That is a dam with which you are probably familiar. It is called Folsom Dam and it is also referred to as Folsom Reservoir. The project is now under construction. I do not know how much is allowed in the budget. There is a substantial amount allowed but whatever it is, I wish to support it heartily.

That dam, when completed, will be integrated with the Central Valley project. It will furnish a great deal of irrigation water and a vast amount of electric power, both of which are very badly needed in California at this time, and will be needed still more in the future.

1952 BUDGET ESTIMATE

Senator KNOWLAND. The budget estimate was $7 million?

Colonel POTTER. $6,895,000.

Representative JOHNSON. I wish you could find your way clear to allow the budget estimate. I think it is very sound.

I want to point out that in the valley in the interior of California, this year we had some very devastating floods. The amount of damage as estimated by the Army engineers is over $32 million. Highways, bridges, railroads, homes, farms, and other things were severely damaged. Part of the damage was caused by the American River.

COMPLETION DATE AND COSTS

Chairman McKellar. When will the Folsom Dam be completed?

Colonel Potter. Folsom Dam is due for closure in June of 1952 if we receive the amount of the budget estimate. After this year's appropriation we will need $34 million to $35 million future appropriations.

Representative Johnson. That is to complete the structure?

Colonel Potter. To complete the entire structure.

Representative Johnson. Does that include the powerhouse and transmission lines which are really part of the project.

Colonel Potter. No, sir; it does not. The powerhouse is to be built by the Bureau of Reclamation.

Representative Johnson. The next dam I wish to mention is the New Hogan Dam. That project was not approved by the budget. It is a dam up here [pointing to map] on the Calaveras River on which the city of Stockton has spent $2 million to control the floods of that river.

I have had very intimate relations with reference to that project and the flood situation and know all about it.

The purpose is to enlarge the dam to give further flood control and possible irrigation benefits. That dam was not allocated any money by the Budget Bureau.

I am not here to urge it now, but I would like to get it in the record that we are looking for some money in the near future for that particular dam.

Senator Knowland. Has there been any planning money?

Representative Johnson. I do not know how much, but there has been considerable planning on that dam.

Colonel Potter. We have spent some planning money on that dam. The plans are not finished.

AMOUNT REQUIRED TO COMPLETE PLANNING WORK

Chairman McKellar. How much would it take to complete the plan?

Colonel Potter. I would say in the neighborhood of $500,000.

Representative Johnson. I would like to urge you to allow a small amount of planning money if you can. Anyway, we are not pressing it too hard today.

NEW MELONES DAM, STANISLAUS RIVER, CALIF.

The New Melones Dam is another dam up here on the Stanislaus River. That is not in the budget, but we merely wish to call it to your attention because it is a very vital project for two irrigation districts, one of which is in my county and one of which is in the adjoining county to the one that I serve at the present time. The latter county (Stanislaus) will be in my district next time.

The next project that I want to talk about is the San Joaquin levees. I am talking about the levees down along the San Joaquin River here [referring to levees, shown on map, in San Joaquin, Stanislaus, and Merced counties].

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I also include in that the Merced Stream group which my colleague, Mr. Hunter, discussed.

I want to point this out to you, Mr. Chairman, that at Stockton, where I live, right there [pointing to map] at the docks of our deep water channel, has an elevation above the sea of only 12 feet.

This valley is a very flat valley and whatever comes down in this area [pointing to area south of Stockton, shown on map] finally comes down into the San Joaquin River here and if the levees along the San Joaquin cannot hold the water, it overflows onto the farm lands and into the cities and towns and the highways. That is exactly what happened this last year.

Major Grant, (later major general), when he was a United States district engineer informed me in 1926 that the great danger from floods to my home city of Stockton was from levee breaks on the San Joaquin River, west of Stockton. In flood stages these levees might break on the east side of the river and cause much flooding to Stockton and the land west of the city. The flooding this year was to agricultural lands caused by the levee breaking, mostly the levees on the west side of the stream.

The control of the Merced Stream group would be of big benefit, and the reinforcement of the levees down through San Joaquin County in the vicinity of Stockton would greatly help our dangerous situation with regard to floods.

What I am telling you was proved by the fact that the very thing I am mentioning did happen last year. As every one knows who has studied the problem, you cannot forecast when a flood is coming or how bad it is going to be. The fact that it did $32 million worth of damage in that interior area, including some of the damage around Sacramento, shows how bad those floods can be. To my personal knowledge, in the last 20 years, some area south of Stockton about 14 miles has been flooded at least on the average of every other year, doing vast damage to crops and to farm land, west and southwest and northwest of the town of Manteca.

STOCKTON CHANNEL TURNING BASIN, CALIF.

The last project I wish to mention to you, Mr. Chairman, is the Stockton channel turning basin. Stockton has a deep water channel that was completed in 1934 by the United States Army engineers, known as the Stockton Deep Water Channel.

It was approved way back in the 1920's when Mr. Curry was our Congressman. The turning basin at that time was made to accommodate vessels that could utilize a 26-foot channel.

Since that time, the channel has been deepened to 34 feet, and the turning basin which we originally built is too small for the modern boats to conveniently and safely utilize the Stockton Deep Water Channel.

The reason I am mentioning this, although it is not recommended by the Budget Bureau and in a way it is a new project and violates the President's order that no new projects should be started, he made the exception that in the event these projects were tied to national defense directly, that then they might be considered.

I mention that because within 6 miles of where this deep water channel is located is the largest in-transit depot that the Army has in the

West. In the last war, about 800,000 tons of traffic, Army cargo, were shipped out of the Stockton Port to the Pacific areas. It could be many times that, in my opinion, if we had a turning basin large enough so that present modern day vessels could turn around in the channel conveniently.

DEFENSE NEED

Also, Mr. Chairman, right across the San Joaquin River from where the deep water channel is, on a place known as Rough and Ready Island, is a $45 million supply depot of the Navy known as Stockton Annex. It has a 7,500-foot dock along the edge of it. Navy vessels come up there to haul away cargo and they must utilize our turning basin of the Stockton Deep Water Channel, into which local interests spent over $4,500,000 to turn their boats around. To serve their convenience and to serve what I believe will be a tremendous traffic if we should be unfortunate enough to have a war, we should have to have a bigger turning basin. The traffic load out of the Port of Stockton may be very large, even though we do not have a war, as the Sharpe Depot serves all Pacific installations, which are now being enlarged.

I understand the cost of enlarging it so that it would be adequate is about $225,000, a very small amount.

I would like to recommend that you put that item in the budget, because I do not think it violates the President's order with reference to the starting of new projects.

COMPLETION COSTS

Chairman McKellar. Colonel Potter, how much would it take to finish it?

Colonel Potter. I believe his estimate is pretty good, if not a little too large, sir, about $200,000. That is all that is left of a $4,000,000 project.

Chairman McKellar. It is connected with the war effort?

Colonel Potter. Yes, sir.

Representative Johnson. The depot I am talking about is only 6 miles from that water front. It has warehouse space there for millions of tons of goods.

FARMINGTON DAM, CALIF.

Senator Knowland. In regard to Farmington, I understand that the Corps of Engineers has recommended $214,000, which apparently completes that, and the budget estimate was approved for that amount, and for some strange reason the House eliminated the item. It would seem to me that that should be completed and buttoned up.

Representative Johnson. I am glad you mentioned that.

As a matter of fact, Farmington Dam has been completed. The district engineer found some money in the budget available to complete that dam.

Chairman McKellar. That is probably the reason the House left it out.

Representative Johnson. I think that is the reason for it, sir.

Senator KNOWLAND. I wish I could clear that point, because I had gotten the impression that there were still some funds needed to clear it up.

I want the record to be clear one way or the other.

AMOUNT REQUESTED

Colonel POTTER. The money which was needed to finish Farmington, $214,000, we advanced from other projects to complete it. Since it was in the President's budget, we felt that we were safe in doing that, but we do need the $214,000. It was borrowed from other California projects.

Representative JOHNSON. Mr. Chairman, I might add with reference to the Farmington Dam, with reference to this flood last year, there was probably much more damage done by the overflow of Little John Creek than the $214,000 that would be required to replace the funds taken from other sources to complete the dam—Farmington—on that creek so as to control its floods.

With the explanation of Colonel Potter, I would like to recommend to you that you put that item in the bill and take care of their fiscal situation out there in the district office in Sacramento.

There is one other matter I want to take 2 minutes to discuss.

Since the Stockton deep-water channel is operating down through the delta and San Francisco Bay, there has been terrific damage to the levees along that channel by virtue of the large vessels plying up and down that stream.

MAINTENANCE OF LEVEES, STOCKTON DEEP-WATER CHANNEL

Under the California law, people in a reclamation district must take care of their levees. That is, where they are just normal leeves which the landowners built themselves to keep the water off their farms.

In this situation the erosion of those walls is caused entirely by the fact that we have these large vessels plying up and down on a Federal project, that is, Stockton deep-water channel.

We feel, and I understand the House has given study to it, that the Federal Government should recognize its responsibility to maintain those levees. Some of them have been riprapped, and I hope we can formulate a policy whereby the Federal Government can assume that responsibility, as it built the channel that required these levees.

I want to thank you for permitting me to come here to testify.

(The following was submitted for the record:)

STATEMENT OF W. B. HOGAN, ENGINEER AND CONSULTANT, STOCKTON, CALIF.

PREFACE

In appearing before your honorable committee the organizations which I represent are not unmindful of the national and international situation that exists in the world today.

We are fully cognizant of the many economic, military, and financial problems which now confront our Nation and which must be resolved by the Congress of the United States.

We do feel, however, that we would be remiss in our duty to our respective localities if we did not briefly present to your honorable body an account of some of the vicissitudes of nature which have so recently been heaped upon us with such destructive intensity, and which have a direct bearing upon national, State,

and local welfare, to wit, the 1950 November and December floods in the Central Valley of California.

Identification

My name is W. B. Hogan. I am a civil engineer by profession. Following is my professional record: Assistant engineer, San Joaquin County, Calif., 12 years; city engineer, city of Stockton, Calif., 8 years; city manager, city of Stockton, 20 years; consulting engineer for local water-conservation districts, 2 years.

I am appearing before this committee as a representative of (*a*) the county of San Joaquin; (*b*) the Stockton East San Joaquin water conservation district; (*c*) the North San Joaquin water conservation district; (*d*) the Flood Control Association of the Lower San Joaquin River and Its Tributaries.

Objective

On behalf of the above organizations I am requesting a Federal appropriation for each project in the amounts set forth. All projects have Federal and State approval:

	Request
(*a*) Farmington Dam	$214,000
(*b*) New Hogan Dam	500,000
(*c*) New Melones Dam	500,000
(*d*) San Joaquin River levees	500,000

Brief description of organizations

County of San Joaquin.—The county of San Joaquin is a political subdivision of the State of California, lying at the foot of the western slope of the Sierra Nevada Mountains, just east of the confluence of the Sacramento and San Joaquin Rivers. A large portion of the county lies in the delta of these two rivers. The county contains nearly 1,000,000 acres of exceedingly fertile land.

Population in 1950	210,000
Assessed valuation	$298,769,805
County seat, Stockton, population, including metropolitan area	125,000
Value of commercial crops, 1950	$127,000,000

Ranks fourth in the State and fourth in the United States in total value of agricultural products (U. S. Census Bureau, 1945).

Stockton East San Joaquin water-conservation district.—A political entity organized under the laws of the State of California primarily for the conservation and development of a water supply for irrigation and domestic and industrial uses. It comprises a highly developed agricultural area and includes about 16,000 acres of urban development. Many large and important industries are located in the urban area.

Area (acres)	84,000
Population, including city of Stockton (approximately)	140,000
Assessed valuation (land only)	$36,640,445

North San Joaquin water conservation district.—A political entity organized under the laws of the State of California primarily for the conservation and development of a water supply for irrigation, domestic and industrial uses. It comprises a highly developed agricultural area.

Area (acres)	52,000
Population, including the city of Lodi (approximately)	25,000
Assessed valuation (land only)	$12,102,190

The flood control association of the lower San Joaquin River and its tributaries.—A voluntary organization representing owners of approximately 150,000 acres of land along the lower San Joaquin River and in the delta.

Organized in 1938 for the purpose of securing flood protection for the lands and communities it represents.

STORMS AND FLOODS OF NOVEMBER AND DECEMBER 1950

The flood of November and December of 1950 in the Central Valley of California will go down in the records as one of the most unusual in the State's history in that:

1. It occurred early in the winter season when normally we do not expect disastrous floods.

2. It was almost entirely a rainfall flood with rainfall extending from the valley floor to the crest of the Sierra Nevada Mountains, increasing in intensity with elevation.

3. In a period of slightly over 3 weeks, three heavy storms occurred with only short intervals between.

4. Past records of intensity of rainfall were broken in many areas from Mount Whitney on the south to Mount Lassen on the north.

5. Record flood flows were exceeded on a number of streams.

Fortunately, existing flood control, irrigation, and power reservoirs on the San Joaquin River watershed were able to hold back and regulate to a considerable degree the flood discharge of the first flood. During the second and third floods, for the most part they afforded little regulation on account of being full or nearly so.

Streams in San Joaquin County presenting flood problems

San Joaquin County, lying as it does just east of the confluence of the Sacramento and San Joaquin Rivers, with a large portion within the delta of these two rivers, is in the most precarious position, with respect to floods, of any county in the Central Valley of the State of California.

The county suffers from floods on each of the following streams:

(1) San Joaquin River from the delta to Friant Dam and the following tributaries:
(2) Stanislaus River.
(3) Littlejohn Creek
(4) Calaveras River.
(5) Bear Creek.
(6) Mokelumne River.
(7) Dry Creek (tributary to the Mokelumne River).
(8) Cosumnes River (tributary to the Mokelumne River).
(9) Lower river delta waterways.

On each of the five first streams listed above there are Federal and State authorized projects, the status of which will be set forth later in this statement.

On the last four streams above listed, authorized surveys and reports are now being made by the United States Army Engineers.

In addition to the above-listed streams upon which there are Federal and State authorized projects, the following tributaries of the San Joaquin River above the Stanislaus River contribute to the flood problems of San Joaquin County:

(1) The Tuolumne River:
(*a*) Cherry River Dam (an authorized project now under construction).
(*b*) New Don Pedro Dam (an authorized project).
(2) Merced County stream group:
(*a*) Bear River (an authorized project).

San Joaquin County is interested in and urges the early completion of the above projects.

During period of unusual floods, some of the waters of the Kings River overflow into the San Joaquin River near Fresno and add an additional burden to its already overloaded channel. The completion of the Pine Flat Dam now under construction will correct this situation.

The flood flows of the Merced River enter the San Joaquin River west of the city of Merced and add to the volume of floodwaters to be carried by the lower San Joaquin River.

The sum total of the heavy flood flows of the San Joaquin River and all its tributaries is more than the river can carry within its banks. Floods are inevitable on the lower reaches of the watershed.

The completion of the now authorized projects on the watershed is the solution to our problem.

Floods on the Mokelumne River and its tributaries (Dry Creek and Cosumnes River), in addition to causing heavy damages to valley agricultural lands along their courses, also cause an increase in the height of the flood plane in the delta channels and retard the discharge of the San Joaquin River as it enters the delta.

FLOOD DAMAGES

It is exceedingly difficult to estimate flood damages. There are many intangible damages upon which a value cannot be placed, but nonetheless are very real. There are also the latent damages which might not be evident until many months after the floods are over.

There is no doubt that the floods of November and December of 1950 were among the most destructive on record in the Central Valley of California.

The United States Army engineers in a preliminary survey in December 1950 estimated that between 350,000 and 400,000 acres of urban and agricultural lands were flooded and damage caused in excess of $32,000,000 in the Central Valley of California. About one-half of this damage occurred in the lower San Joaquin River Basin and in the delta of the San Joaquin and Sacramento Rivers. When the intangible and latent damages are taken into consideration the total damages for the Central Valley will far exceed $32 million.

The Chief of Engineers, the division and district engineers of the United States Army engineers have all stated that if the authorized flood-control projects in the Central Valley had been completed and in operation, there would have been no floods of serious consequences in the valley and the damages incident thereto would have been averted.

Damages in San Joaquin County

Following is an estimate of the flood damages in San Joaquin County due to the floods of November and December, of 1950:

Field crops	$776,930
Farm homes	315,000
Erosion	312,975
Farm fences, equipment, pumps, etc	151,200
Venice Island	250,000
Sewage plants, diversion dam fish ladder, gravel pits, gold dredger	181,000
County highways	513,000
State highways	336,000
Public utilities	600,000
Total	3,436,105

The above figures do not include intangible and latent damages which cannot be estimated. Neither do they include sums spent by the United States Army engineers and the State of California on emergency work primarily for the closing of levee breaks. The Chief of Engineers made available $2 million for this work in the Central Valley and the State of California a similar amount.

It would be safe to say that the over-all damages in San Joaquin County alone from the 1950 floods exceeded $5½ million.

STATUS OF PROJECTS FOR WHICH FUNDS ARE BEING REQUESTED

The Farmington Dam

Location.—On Littlejohn Creek, jointly in Stanislaus and San Joaquin Counties about 4 miles east of the town of Farmington and 21 miles easterly of the city of Stockton.

Description of improvement.—An earth-fill dam, 48 feet high and 6,200 feet long creating a reservoir with a capacity of 52,000 acre-feet to be utilized for flood control. Improvement of Duck Creek channel.

Federal authorization.—Public Law No. 534, Seventy-eighth Congress, second session (H. Doc. No. 545, 78th Cong., 2d sess.).

State authorization.—Chapter 1514, Statutes of 1945.

Justification.—The project would protect from floods a large developed agricultural area and suburban areas adjacent to the city of Stockton.

Estimated total cost	$3,729,000
Appropriations to date	3,515,000
Required to complete (status of project as of Dec. 1, 1950; main dam 95 percent complete)	214,000
Funds requested	214,000

Remarks.—This project is so nearly completed it must be finished.

San Joaquin River levees

Location.—San Joaquin, Stanislaus, and Merced Counties.

Description.—Levee construction on San Joaquin River below mouth of Merced River, along the lower portion of Tuolumne and Stanislaus Rivers and through the upper delta and flowage rights for natural valley storage above the mouth of Merced River.

Federal authorization.—Public Law No. 534, Seventy-eighth Congress, second session (H. Doc. No. 2, 78th Cong., 2d sess.).

State authorization.—Chapter 1514, Statutes of 1945.

Justification.—Protection of more than 100,000 acres of highly developed productive agricultural lands and improvements thereon.

Estimated first cost	$4,134,000
Funds appropriated to date (planning)	Minor
Funds requested	500,000

Remarks.—Funds have been requested on previous occasions for this improvement. Most of the agricultural land flooded was contiguous to this stream. Pictures on pages of this statement show better than words can express the necessity for an early start of this project.

New Hogan Dam

Location.—On Calaveras River 3 miles south of the town of Valley Springs.

Description.—An earth-fill dam incorporating the existing dam in the proposed structure, together with three auxiliary related earth-fill dikes. Reservoir capacity 325,000 acre-feet with a maximum flood-control reservation of 133,000 acre-feet.

Federal authorization.—Public Law No. 534, Seventy-eighth Congress, second session (H. Doc. No. 545, 78th Cong., 2d sess.).

State authorization.—Chapter 1514, Statutes of 1945.

Justification.—Additional flood protection for the city of Stockton and farm lands along Calaveras River, Mormon slough and diverting canal, and provision for conservation storage of approximately 190,000 acre-feet.

Estimated first cost (H. Doc. 367, 81st Cong., 1st sess.)	$11,264,000
Construction funds appropriated to date	None
Funds requested	500,000

Remarks.—Concerning the above project the city of Stockton as its own expense built the present Hogan Dam at a cost of nearly $2,000,000. The present structure affords protection from only normal floods. The damage from a repetition of the 1911 flood on this stream could well be several million dollars, as the area which would be affected is now highly developed and some of it thickly populated. Fortunately, there was no major flood on the watershed during the recent storms.

Location.—On Stanislaus River, 14 miles above town of Knights Ferry, two-thirds of a mile below present dam.

Description.—Concrete arch dam.

Federal authorization.—Public Law No. 534, Seventy-eighth Congress, second session (House Committee Doc. No. 2).

State authorization.—Chapter 1514, Statutes of 1945.

Estimated first costs (H. Doc. No. 367, 81st Cong., 1st sess.)	$38,026,000
Funds to date	Minor
Funds requested	500,000

Remarks.—The flood waters on this stream do extensive damage along the course of the river itself and contribute heavily to volume of flood waters of the San Joaquin River and the damages in Stanislaus and San Joaquin Counties resulting therefrom.

The pictures on the two pages following show what happens during a major flood.

OUR NATIONAL ECONOMY, DEFENSE, AND WELFARE

In considering this request for a Federal appropriation for the implementation of the flood-control projects herein set forth, it is the view of local interest that serious consideration must be given to their relationship to our national economy, defense, and welfare. For your consideration we submit the following:

(1) The Central Valley of California is one of the major food-producing areas in the United States. The cash income from all types of agriculture including dairying and livestock exceeded $1 billion in 1949.

(2) Damages in excess of $32 million due to the 1950 floods was primarily to agriculture.

(3) Damage to agriculture in San Joaquin County alone exceeded $5 million.

(4) California is a pivotal State in our national and international relations with the Far East and the Orient. Its economy must not be impaired.

(5) The Central Valley of California is the location of many important military establishments.
(6) Two of the largest military supply depots in the United States are located in San Joaquin County, to wit:
(a) The Army Sharpe General Supply Depot with three annexes close by.
(b) The naval supply depot on the Stockton deep-water channel near the port of Stockton.
(7) Ingress and egress by rail, highway, and waterway to and from the above establishments is seriously impaired by major flood disasters.
(8) The main lines of three transcontinental railroads, viz: The Southern Pacific, the Western Pacific, and the Santa Fe, pass through San Joaquin County and the flooded areas. The former was out of service for 10 days during the December flood.
(9) Two United States highways, viz: US 50 and US 99 pass through the flooded areas in San Joaquin County. The former was closed to traffic between Stockton and San Francisco for a period of 30 days.
(10) Many State and county highways were flooded for prolonged periods.

CONCLUSION

In conclusion we submit as follows:
(1) The projects herein enumerated have been authorized by the Congress of the United States.
(2) The State of California will finance all non-Federal costs.
(3) Flood-control works in California have not kept pace with the development of the State.
(4) Their construction should be accelerated at once.
(5) The funds herein requested for the projects set forth are comparatively small, but nonetheless are important and will permit the starting of work on major contract plans and minor construction items.
(6) In the interests of national, State, and local economy the funds herein requested should be appropriated by Congress.

Senator KNOWLAND. Mr. Chairman, this would be a good place to recess if you are going to recess.

We do have, outside, California witnesses. I do not know whether you would prefer to recess at this point or carry on.

Chairman MCKELLAR. If it is satisfactory, the committee will take a recess until 2:30 p. m.

AFTER RECESS

Chairman MCKELLAR. The committee will be in order, please. All right, Senator you may proceed.

Senator KNOWLAND. Mr. Chairman, if it is agreeable to you, I just want to present to this committee Mr. C. A. Griffith, who is chairman of our State water resources board, a distinguished citizen of our State, who has been giving his time and effort to this work. He, in turn, after making his opening statement, will introduce the other witnesses, if that is agreeable.

Chairman MCKELLAR. All right, sir.

STATEMENT OF C. A. GRIFFITH, CHAIRMAN, STATE WATER RESOURCES BOARD, AZUSA, CALIF.

PLANNING FUNDS, CALIFORNIA FLOOD-CONTROL PROJECTS

Mr. GRIFFITH. Mr. Chairman and members of the committee, I would like to present for the record a formal statement, if that is agreeable to you.

Chairman MCKELLAR. Yes, sir; that will be done.

(The statement referred to is as follows:)

STATEMENT OF C. A. GRIFFITH, CHAIRMAN, STATE WATER RESOURCES BOARD, CALIFORNIA

Chairman McKellar and members of the committee, I am C. A. Griffith, of Azusa, Calif., chairman of the State water resources board. This board has seven members appointed by the Governor who are directed by law to represent the various flood-control agencies and interests of California in their dealings with the Federal Government and the State.

I appear here today in the dual capacity of chairman of the State water resources board and as spokesman of a delegation of Californians who represent the local areas most vitally concerned with the Federal Government's flood-control program in our State.

When this group appeared before Deficiencies and Army Civil Functions Subcommittee of the House Appropriations Committee early in May we were advised that only those projects which met certain criteria would be considered for appropriations this year. With that in mind we devoted most of our time before that committee describing what we are contributing to national defense in the areas the Federal flood-control projects are designed to protect. By coincidence the United States Chamber of Commerce was meeting in Washington at that time and anyone listening to our testimony might well have decided he was listening to a section meeting of the United States Chamber of Commerce instead of a group of flood-control advocates.

I think, however, that a portion of that testimony will bear repeating before this committee, for it does play an important part in meeting the criteria the President and the Congress have established for flood-control appropriations. I shall deal with the matter only generally and depend upon those representing the various areas of the State to supply the detail.

California, by the very nature of its size—second largest State in the Union—with its varied climate and topography presents a multitude of flood-control and water-conservation problems. Few people realize that if a State of similar size were on the eastern seaboard it would extend from Cape Cod to Savannah, Ga. Add to that such extremes as the highest and lowest spots in the United States, the wettest and driest, and the hottest if not the coldest and you have a combination to tax the ingenuity of man.

Last winter, in November and December for instance, we were suffering devastating floods in one end of the State and a severe drought in the other. Despite these handicaps we have managed to play a leading role in direct support of our national economy and the defense effort. Our food-producing potential is so great that in 15 out of the past 20 years California's cash income from farm products has been higher than that of any other State in the Nation. The industries of California, supplying processed food, fiber, petroleum, aircraft, ships, lumber, synthetic rubber, and many other commodities, in turn provide the sinews of war and national defense.

The phenomenal growth of population in the State, its strategic position on the west coast, and the trend of the Federal Government to concentrate more and more important military establishments and supporting industries within its borders have complicated and enhanced our flood-control problems. Our rail and highway systems now are vital links in the chain of defense of our western seaboard. Anything that serves to disrupt or damage this complex and delicately balanced composite is detrimental not only to the State but to the Nation as a whole. Floods, which can and should be controlled, are the most disruptive natural force we face.

As I mentioned before, last winter at the beginning of our rainy season, we had a series of heavy storms in northern California that caused widespread damage and played havoc with the transportation and communication systems in most of the Central Valley area. It is estimated that more than 350,000 acres of urban and farm lands were inundated and the damages will run to more than $30,000,000. These floods alone caused damages approximately equaling the entire amount of money appropriated by the Congress for flood-control construction in California last year.

The floods conclusively proved two things which should be of particular interest to this committee. First, that floods of this type can be largely controlled. On the streams where flood-control works were completed and in operation there was little or no damage. The Sacramento River flood-control project, even though portions of it are not up to grade and standard, functioned perfectly for the

purposes for which it was designed. It carried the excess waters of the Sacramento River into bypasses and saved thousands of acres and many cities and communities from inundation. On the other hand, the American River, which Folsom Dam is designed to control when completed, broke out of its course and flooded highly developed suburban lands in the vicinity of Sacramento. It also almost marooned our capital city and seriously affected both the transcontinental and transcoastal highways and railway transportation systems which converge at Sacramento. The loss of United States Highway No. 40 at Sacramento, which came dangerously close to going under, would have completely cut off the huge air base at McClellan Field, which serves as the supply depot for all air bases in the Pacific command. In times like these we cannot afford to leave such installations prey to the vagaries of the weather.

The second point our recent floods proved is that California still is, and will remain to be, subject to periodic and devastating storms, the effects of which can only be controlled by completion of a comprehensive flood-control program such as has been proposed by the United States Corps of Engineers. A major portion of this program has been approved and authorized by the Congress, but construction lags far behind. Much of the flooding could have been prevented had those projects on which construction is now under way been completed.

Flood conditions were so serious that Gov. Earl Warren requested Maj. Gen. Lewis A. Pick, Chief of the United States Corps of Army Engineers, to make a personal inspection of the inundated areas. General Pick flew to California immediately and spent several days covering all of the flooded sections of the State. Due to the fact that levees in many places were breached or so seriously weakened that any subsequent rise in the rivers might cause further damage from flooding, he made $2,000,000 in emergency funds available for their repair. This action by the United States Corps of Engineers was deeply appreciated by the people of California and saved many areas from additional damages which could have occurred had the levees not been immediately repaired.

I presume that in his testimony before this committee General Pick told you of the conditions which prevailed in our State. I will therefore not dwell on them longer. However, I do want to stress one statement General Pick made at several meetings he held in the flooded areas. He deplored the necessity of having to spend $2,000,000 of emergency funds for damages that might have been prevented had the Army's construction program been further advanced. But his principal point was that the only solution of California's flood problem is the accelerated construction of the flood-control projects already authorized by the Congress but which remain incompleted. We are in complete agreement with his statement.

To accomplish this program on a 5-year basis would require appropriations by the Congress of approximately $100,000,000 a year. A 10-year program would require $50,000,000 a year. That is the magnitude of our problem. We feel it is our duty to bring to the attention of this committee the obligations to which the Congress has committed itself on flood-control construction in California alone, and the fact that the rate at which appropriations have been set up in the President's budget over the past several years would prolong the construction of these projects over a period of 15 years.

Each year the State water resources board in cooperation with local agencies and the United States Corps of Army Engineers reviews the Federal construction program and its progress in relation to our needs. Last December some 75 citizens, representing the flood-control interests in all parts of the State, appeared before our board and presented a proposed program of Federal flood-control construction for the fiscal year 1952 which would have required $115,000,000 in appropriations from this Congress. The sponsors of each project backed their plea with facts and figures in support of their requests. The State water resources board took the matter under consideration. Now, as the State agency responsible for the orderly development of the water resources of California, our board is fully cognizant of the pressing flood-control needs in large portions of the State. In normal times I am confident that the board would have endorsed the proposed program as presented. However, these are not normal times. We are well aware of the nature of the problems of this Congress, confronted as it is with a 71-billion-dollar budget and the unwelcome prospect of having to raise taxes to support it. In California we are faced with much the same problem. Our legislature has just approved a budget of more than a billion dollars. Yet in spite of the size of our budget, there is no provision for funds to build certain water-conservation works which should be financed in part by the State.

In view of the conditions prevailing, the State water resources board felt that a more realistic approach to the matter of Federal appropriations proposed by

the local interests was to divide the projects into two categories. First, those projects actually under construction and, second, those on which planning is in an advanced stage but on which construction has not been started. The board, accordingly, set up a proposed program which would complete all projects now under construction by 1955. The one exception is the Los Angeles River drainage area project which will require a longer period. All other projects in the advanced planning stage were blanketed in at a figure of $500,000 each. In the case of the latter, the board recognized the fact that under Presidential order no new projects are to be undertaken unless they are vital to national defense. However, as a board representing the State of California, we feel that the need for these projects should be kept in the record and that they should receive first priority, when the building ban is lifted.

The cuts in the President's budget made by the House appear in general to be in accordance with the criteria established by the subcommittee. There was one cut, however, which concerns not only California, but every State concerned with flood control and rivers and harbor projects. It was the elimination of all funds for planning. Adequate planning money is absolutely essential to the continuance of the Government's flood-control program. We know from past experience that additional planning money on flood-control projects would have saved the Government money in the long run. We have found in our State that insufficient money has been spent on planning to establish the true value of many of the authorized projects and that the estimates submitted to Congress in some cases were inadequate. I especially urge that the planning funds contained in the President's budget be restored by this committee.

The program I am presenting today was approved by the State water resources board at a public hearing held February 2, 1951. It calls for appropriations in the total sum of $72,634,000 divided among the various projects as follows:

Los Angeles engineering district:	
Los Angeles River drainage area	$20,250,000
Whittier Narrows	10,000,000
San Antonio Dam	2,250,000
San Antonio Channel	500,000
Carbon Canyon	500,000
Riverside levees	500,000
Warm Creek	500,000
Santa Clara River	500,000
Stewart Canyon	500,000
San Diego River	510,000
Total	36,010,000
Sacramento engineering district:	
Black Butte	500,000
Cherry Valley	3,500,000
Farmington	214,000
Folsom	9,000,000
Hogan Reservoir	500,000
Isabella	5,000,000
Merced stream group	910,000
New Melones	500,000
Pine Flat	10,000,000
Sacramento River, major and minor tributaries	2,000,000
Sacramento River, old project	3,000,000
San Joaquin River	500,000
Success	500,000
Terminus	500,000
Total	36,624,000
Grand total	72,634,000

LOS ANGELES RIVER DRAINAGE AREA

Mr. GRIFFITH. I would like to make a few remarks, if the chairman pleases.

In the first place, my name is C. A. Griffith. I am chairman of the State water resources board, and, as such, represent the State of California here today and also a group of witnesses who will take up in detail many of the projects that we would like to discuss. I am accompanied here today by Sam R. Leedom, administrative assistant of the board, and Theodore F. Stevens, of Mr. Ely's office.

California, gentlemen, is to us, and to the Nation, a very interesting and a very important State.

Chairman McKellar. It is to the whole country.

Mr. Griffith. That is right.

The topography makes it very difficult to control floodwaters in the streams that we have. Our railroads and highways naturally traverse the valley through the narrow parts of it. The flood-control projects that you have started in the State are for the protection of those tremendously important arteries.

Not only do we have to protect those highways and railroads, but the farms of California are tremendously important.

I picked up some very interesting figures the other day from the Department of Agriculture. Out of 35 selected crops, California ranks first among the States in 27 of those crops, second in 6, third in 1, and fourth in 1.

Now, among those crops you find some very important ones. For instance, in the field crops we were first in alfalfa, first in barley, second in dried beans, fourth in cotton. We were fourth in rice.

Then in the crops that are particularly important to the armed services at the present time, we find peaches, pears, prunes, and apricots, and we happen to be first in all of those.

Now, as far as the flood-control projects in California are concerned, as I said before, they are tremendously important to all of us. Some months ago last winter, we had a group of citizens that are flood-control minded get together and present to the board of water resources the program that we should present to the Congress this year for appropriations. Now, normally, I think our board would have accepted those figures without any questison. Those figures showed that it was necessary, if we are to carry on the program so as to effect the completion of these products in a reasonable time, we should have an appropriation of $115,000,000 this year. But, after screening the requests and going over them very carefully, we cut that amount to about $72,000,000.

Now, we understand very thoroughly, of course, that the Congress thinks that this year it is unwise to appropriate money for projects that have not been started. Therefore, we have divided our projects into two categories, and are making a certain proposal for this year.

A number of them are in the category of no work being started. These projects the Board blanketed in with a request of $500,000 for each so these projects would maintain their priority. The others are in various stages of completion and the amounts we have recommended would carry on the work in an orderly manner.

There is one thing that I would like to particularly call to the attention of this committee, and that is the fact that in the House bill, all planning money was eliminated. Now, we do not think, gentlemen, that that is sound. We think that no matter what the demands on the Treasury are for other activities, that if we do not go ahead

with the regular planning, some of these days we are going to be very sorry that that has not been done, so I earnestly request that planning money for the Corps of Engineers on flood-control projects be reinstated.

Now, if Mr. Leedon will point out on the map before you, I would like to list the various projects and the appropriations we are recommending.

BREAKDOWN OF AMOUNT REQUESTED, CALIFORNIA PROJECTS

In the first place, the Los Angeles River drainage area concerns a very important area which will be taken up by a witness in the course of our discussions. That item was $20,250,000.

On Whittier Narrows, our request is $10,000,000.

For the San Antonio Dam, the request is $2,250,000.

For the San Antonio Channel, Carbon Canyon, Riverside levees, Warm Creek, Santa Clara River—that is in the district up above, and not in the Los Angeles district—and for Stewart Canyon in Ventura County, for those six we are simply, for the record, asking for $500,000 apiece. These are in a group for which the appropriation was denied in the House, and on which work has not been started.

The request for the San Diego River project is $510,000. That completes, gentlemen, the flood-control work on the San Diego River.

Now, in the Sacramento engineering district we also have various projects which have been authorized by the Congress, but with no work started and with no money appropriated.

For Black Butte, Hogan Reservoir, New Melones, San Joaquin River levees, Success and Terminus, the requests are for $500,000 each.

Now, the balance of the Sacramento district projects consist of Cherry Valley, for which we are asking $3,500,000; Farmington, $214,000. By the way, that was discussed this morning, and Senator Knowland brought out the fact that even though money has been transferred from some other funds, it should be kept in the request. Folsom, $9,000,000; Isabella, $5,000,000; Merced Stream group $910,000; Pine Flats, $10,000,000; Sacramento River, major and minor tributaries, $2,000,000; and Sacramento River, old project, $3,000,000.

That completes the Sacramento district which makes a total of both districts, for all of California, of $72,634,000.

Now, in the back of the statement that you have before you, you will find a map which cover all of these projects, and also shows the main transcontinental highways and the flood damage that was caused last November. That flood damage was of considerable importance. General Pick of the Army estimated losses of from $30,000,000 to $32,000,000. Three hundred fifty thousand acres of land were inundated. We happen to be so close, with our farming lands, our railroads, and our highways, so close to the mountains, that torrents of water come on you before you know it; and it is necessary to have these flood-control projects to harness these tremendously devastating streams.

Gentlemen, I think that about completes my statement. I would like to introduce as the first witness, Mr. Charles L. Kaupke, watermaster of the Kings River Water Association. He is one of our very best informed men on water.

As Congressman Hunter has said this morning, he has been there for a long time because he started out when Congressman Hunter was 1 year old.

STATEMENT OF CHARLES L. KAUPKE, CHIEF ENGINEER AND WATERMASTER, KINGS RIVER WATER ASSOCIATION

PINE FLAT RESERVOIR, KINGS RIVER, CALIF.

Mr. KAUPKE. Mr. Chairman and gentlemen of the committee, I have this prepared statement which I would like to submit for the record.

Chairman MCKELLAR. That will be inserted into the record at this point.

(The statement referred to is as follows:)

STATEMENT OF CHARLES L. KAUPKE, CHIEF ENGINEER AND WATERMASTER KINGS RIVER WATER ASSOCIATION

My name is Charles L. Kaupke, I reside in Fresno, Calif. I am authorized and directed to appear here and urge your favorable consideration of a further appropriation for the Pine Flat Dam on Kings River in California. I am, and for the past 33 years, have been the engineer and watermaster for the Kings River Water Association and its predecessors. This association, organized in 1927, now consists of 31 irrigation districts, mutual water companies, and corporations embracing nearly all of the lands irrigated by Kings River and generally referred to as the Kings River service area. The gross area is 1,100,000 acres.

The Kings River Water Association recently sponsored, and the California Legislature passed, an act creating the Kings River conservation district. This public district includes the entire 1,100,000 acres of the Kings River service area. It provides the area with a single legal entity empowered to contract with the United States for Pine Flat irrigation benefits, and to represent all the Kings River water users in every way necessary to secure their rights, interests, and bargaining power. The Kings River conservation district was created subject to popular referendum at an election which probably will be held next November. There has been no effective opposition to the district so far, and the prospect of its popular ratification is good.

The Kings River service area is situated near the geographical center of the State and of the San Joaquin Valley, which is the southern lobe of the Central Valley of California. The project for flood control for the Kings River and the Tulare Lake Basin was authorized for construction by the War Department in Public Law 534, Seventy-eighth Congress, and approved by the President on December 22, 1944.

The estimated cost of the project, based on current prices, is $51,121,000. Congress has appropriated $22,165,000. All preliminary work at the dam site and in the aggregate pit has been completed. The first concrete was poured on November 1, 1950. Although there was a temporary stoppage of the work in November and December of last year, due to flood conditions, excellent progress has been made. The river has been diverted from its ancient bed and the major portion of the dam is now above the high-water line.

As shown by the above statement, this project qualifies fully as an authorized project under construction and, as such, is eligible for further appropriations. We respectfully urge an appropriation of $10,000,000 for the fiscal year 1952. This amount has the support of the California Water Resources Board and is one of the items in the list of California projects for which appropriations are being sought by the State of California.

The Kings River Pine Flat project while primarily a flood-control project will also serve irrigation and power development. It should be borne in mind, however, that the use of the reservoir for irrigation, while substantial, will always be incidental to flood control and will not reduce or impair its usefulness for flood control.

The Flood Control Act of December 1944 authorized the project for flood control for the Kings River and the Tulare Lake Basin subject to the following proviso:

"That the Secretary of War shall make arrangements for payment to the United States by the State or other responsible agency either in lump sum or

annual installments for conservation storage when used: *Provided further*, That the division of costs between flood control and irrigation and other water uses shall be determined by the Secretary of War on the basis of continuing studies by the Bureau of Reclamation, the War Department and local organizations."

The determination of allocation of costs of this project, by the Secretary of War and concurred in by the Secretary of the Interior, dated January 31, 1947, contains the following statement (The complete report may be found in H. Doc. No. 136, 80th Cong., 1st sess.):

"Our estimates show that the entire Kings River project is justified for flood control alone. The need for this project is urgent as the highly developed Kings River and Tulare Lake area where local interests have expended some $70,000,000 in developing their own irrigation systems, is subject to recurring destructive floods. Statements from local interests indicate that during the past 6 years flood losses have amounted to $20,000,000. To me this indicates that the public interest demands there by no further delay in providing this project.

"* * * The Secretary of the Interior is firmly convinced that any repayment less than $14,250,000, which he has found to be well within the repayment ability of the water users would adversely affect adjacent Federal reclamation programs in the Central Valley of California. * * * Obviously any division of cost to be of practical value in the public interest must be one agreed to by water users who must pay the bill and by the Bureau of Reclamation which you (the President) have charged with making repayment arrangements. I, therefore, determine, in order to meet the requirements of existing law, that the division of cost to irrigation should be set at an amount not to exceed $14,250,000, the exact amount to be as agreed upon between the Bureau of Reclamation and the local agencies concerned."

It should be noted that in the reports to which reference has been made, the chief emphasis is placed on flood control and irrigation service. However, there has developed in California a growing demand for more hydroelectric power for irrigation pumping, municipal and industrial uses. Large agricultural areas in the Central Valley of California get their entire water requirement by pumping from the underground, others supplement a gravity or canal supply. Consequently, there is an increasing need for power to pump the deficiencies.

Hydroelectric power development has been considered an essential feature of all past plants for flood control and irrigation service through storage at Pine Flat. Two power developments have been considered by the local irrigation interests, one utilizing the head created by Pine Flat Dam and the other a development of the available fall in the upper North Fork of Kings River from the Wishon Reservoir site to the backwater of the Pine Flat Reservoir site. These two developments, when combined, afford a feasible project of large capacity.

It is generally recognized that to be feasible power plants on the drainage area of Kings River above Pine Flat require storage. While the topographic conditions are favorable to high head plants with relatively short conduits, the very low stream flow during several months of the year makes storage a necessity for sustained capacity. Upper power storage cannot be used without interfering with existing irrigation requirements unless reregulatory storage is provided below such plants. Any assignment of reservoir space to power will reduce the irrigation usefulness obtainable from Pine Flat to a limited extent, but it would not and could not be operated so as to reduce the extent of flood control.

Floods on Kings River are of two general types—winter floods and summer floods. Winter floods are caused by heavy precipitation in the form of warm rains which may extend up to an elevation of 9,000 feet. Above 9,000 feet winter precipitation nearly always falls as snow. Summer precipitation is light and largely limited to thunderstorms. It is not a factor in flood control. The highest river stages occur in winter and result from warm rains falling on new snow.

These winter floods are unpredictable, spectacular, and destructive. They reach high rates of discharge, but are usually of short duration and comparatively small volume. There have been two major floods of this type in recent years, one in December 1937 with a peak of 80,000 second-feet and a volume of 125,000 acre-feet, the other in November 1950, with a peak stage of 100,000 second-feet and a volume of 150,000 acre-feet. Destructive floods of somewhat smaller stage and volume swept down the river in March 1938, February 1945, and December 1950. The 1,000,000 acre-foot Pine Flat Reservoir will hold several floods of this type without releasing any water.

Spring and summer floods are the result of the melting of excessive snowpacks in the high mountains and are often of long duration and great volume

and constitute the principal flood menace. The customary summer rise begins with the advent of warm weather, about the first of April. It reaches its peak between the middle of May and the first of July and then rapidly recedes. About 80 percent of the annual river discharge occurs in the 4-month period, April to July, inclusive. For example, in 1906 the river discharged 287,000 acre-feet in April (682,000 in May, 1,010,000 in June, and 1,000,000 in July. More recently in 1938 monthly discharges for the 4-month period were 352,300, 701,900, 860,100, and 401,800 acre-feet, respectively. Damaging floods and extensive inundation of rich farm lands also occurred in 1907, 1909, 1911, 1914, 1916, 1937, 1941, and 1945. Records show that serious damage may result whenever the annual runoff exceeds 2,000,000 acre-feet. Inundation and damage are roughly proportional to the runoff in excess of that amount.

During November and December 1950, a series of storms formed on the Pacific Ocean and moved across central California. Warm, moist, tropical air brought in by the storms, extending from the Kern River watershed northward to the Oregon boundary, caused heavy rains to high elevations on the western slope of the Sierra Nevada Mountains.

Some of the streams, including Kings River rose to unprecedented heights. The damage to croplands was caused by levee breaks and overtopping and by backwater. The amount of the flood damage caused by these storms was estimated by the Corps of Engineers to be at least $32,183,000, of which $11,190,000 occurred in the upper San Joaquin River Basin—Kings River to Kern River.

The Kings River service area produces about 75 percent of the raisin grapes grown in the United States. It also produces a great quantity of dried tree fruits and canned vegetables. Cotton is grown extensively, particularly in the Tulare Lake Basin which is subjected to frequent floodings from Kings River and other tributary streams.

During the floods of November and December, high water on the San Joaquin River, of which the Kings River is a tributary, cut off access to the ports of San Francisco and Oakland over one main highway and two transcontinental railroads and seriously threatened other lines of communication.

In conclusion, I wish to state that in coming before this committee to urge that adequate appropriations be recommended to carry forward the construction of the Pine Flat project, I am fully aware that the present world situation demands the utmost economy in all nonessential expenditures. The Pine Flat project will make a definite contribution to the defense effort. This dam will protect an area of 1,000,000 acres devoted to the growing of food and fiber. It is also needed to protect lines of rail and highway communication which are indispensable to national defense.

Senator KNOWLAND. Mr. Chairman, before Mr. Kaupke gets started, that sounds like a roll call. We may have some interruptions this afternoon. The members of the committee will go upstairs and vote. We will come right down again.

Chairman MCKELLAR. Will you please wait here? We will come right down, we will take a recess for a moment and go up and vote.

(A short recess was taken.)

Chairman MCKELLAR. All right, Mr. Kaupke, will you go ahead please?

PINE FLAT DAM AREA

Mr. KAUPKE. Mr. Chairman and members of the committee, my name is Charles L. Kaupke. I am authorized and directed to appear here and urge your favorable consideration on a further appropriation for the Pine Flat Dam on Kings River in California. I am, and for the past 33 years have been, the engineer and water master for the Kings River Water Association and its predecessors. This association, organized in 1927, now consists of 31 irrigation districts, mutual water companies, and corporations, embracing nearly all of the lands irrigated by Kings River, and generally referred to as the Kings River service area. The gross area is 1,100,000 acres, of which 80 percent is in public districts.

85787—51——56

Chairman McKellar. You mentioned "public districts." What do you mean by that?

Mr. Kaupke. We have irrigation districts and other public districts that are organized under the laws of the State of California. They are governed by a board of directors, elected by all of the voters within the area, and they have a taxing power the same as a county or a school district.

Chairman McKellar. All right, sir.

Mr. Kaupke. Directing your attention to the very excellent map before you, this is Kings River, heading up here at the crest of the Sierra Nevadas, and then flowing generally in a westerly direction to the trough of the valley.

The Kings River has built up an alluvial cone with the apex point where the river flows out of the mountains to the valley, and extending to the center of the valley. This cone has created a ridge extending entirely across the valley.

The Kings River divides and then flows in one channel known as the South Fork into the Tulare Lake Basin, and contributes to the inflow into that area, along with the Keweah, Tule, and Kern Rivers.

The other branch of the Kings River flows in a northwesterly direction and joins the San Joaquin River in what is referred to as the Mendota pool.

The Mendota pool, incidentally, is the terminus of the Delta-Mendota canal, just put into operation by the Bureau of Reclamation.

TOTAL ESTIMATE COST AND 1952 BUDGET REQUEST

The Kings River project was authorized in the 1944 Flood Control Act for construction by the Corps of Engineers.

The estimated cost of the project, based on current prices, is $51,121,000. Congress has appropriated $22,165,000. We respectfully urge an appropriation of $10,000,000 for the fiscal year 1952. This amount has the support of the California Water Resources Board and is one of the items on the list of California projects for which appropriations are being sought by the State of California.

All preliminary work at the dam site has been completed. The first concrete was poured on November 1, 1950. I might say that I was accorded the honor of pulling the lanyard that dropped the first load of concrete.

Although there was a temporary stoppage of work in November and December of last year due to flood conditions, excellent progress has been made. The major portion of the dam is now above the high-water line. The completed structure will contain about 2,200,000 cubic yards of concrete, of which 420,000 cubic yards have been placed to date. Pouring is now proceeding at the rate of about 19,000 cubic yards per week. Completion is scheduled for 1954. However, some flood protection may be afforded next spring.

IRRIGATION FEATURES

The Corps of Engineers found this project economically feasible and highly desirable for flood control alone. However, it will serve other purposes, among which are incidental irrigation storage and reregulatory storage for upstream power developments. The local

water users have expended $70,000,000 of their own funds for the construction of irrigation works and canals and at least another $25,000,000 for approximately 18,000 wells and pumping plants. They are willing to pay a fair price for storage space in the Pine Flat Reservoir and to use that space in a manner that will not impair or reduce the usefulness of the reservoir for flood control.

The Kings River Water Association recently sponsored a bill in the State Legislature of California to create a public district to be called the Kings River Conservation District. The bill was passed by the legislature and signed by the Governor of the State.

One of the purposes of this act is to create a public agency which can contract with the United States for the acquisition of storage space in the Pine Flat Reservoir.

FLOOD DAMAGE

In November and December 1950, a series of storms formed on the Pacific Ocean and moved across central California. Warm, moist tropical air brought in by the storms, extending from the Kern River watershed to the California-Oregon border, caused heavy rains to high elevations on the western slopes of the Sierra Nevada Mountains.

Some of the streams, including Kings River, rose to almost unprecedented heights. Great damage was caused to croplands by flooding and erosion. Four highway bridges across the river were washed out. It is estimated that 50,000 turkeys ready for market perished in the lowlands of Kings River.

Hundreds of acres of cotton in the flooded areas were a total loss. The amount of the flood damage caused by these storms was estimated by the Corps of Engineers to be at least $32,183,000, of which $11,190,000 occurred in the upper San Joaquin Valley from Kings River to Kern River.

The waters of the Kings River mingling with those of the San Joaquin River and its other tributaries, cut off access to the ports of San Francisco and Oakland over one main highway and two transcontinental railroads and seriously threatened a third railroad and other lines of communication.

In conclusion, I wish to state that I am fully aware that the present world situation demands the utmost economy in all nonessential expenditures. However, in my opinion, the Pine Flat project will make a definite contribution to the defense effort. This dam will protect an area of 1,000,000 acres devoted to the growing of food and fiber. It will also help to protect lines of rail and highway communication which are vital to national defense.

WATER SHORTAGE

Nothwithstanding this great flood last winter, the upper San Joaquin Valley, including the Kings River service area, is again faced with a very serious water shortage and drought. The runoff of the river will be about 50 percent of the average. Thousands of acre-feet of water which flowed as destructive floods, unused, to the sea, and which could have been stored in a completed reservoir, are desperately needed now for irrigation.

That concludes my statement, Mr. Chairman, and I thank you.

Chairman McKellar. Are there any questions? If not, we are very much obliged to you.

Will you call the next witness?

Mr. Griffith. I would like to call Mr. George L. Henderson, who will speak on Isabella Dam.

STATEMENT OF GEORGE L. HENDERSON, CHIEF ENGINEER, KERN COUNTY LAND CO., BAKERSFIELD, CALIF.

ISABELLA DAM, CALIF.

Mr. Henderson. Mr. Chairman and members of the committee, my name is George L. Henderson of Bakersfield, Calif. I am chief engineer of the Kern County Land Co., and of the 14 canal companies which operate on Kern River. I have had 27 years of experience with the problems of Kern River, 21 years of those being in charge of the engineering phases of that operation.

I appeared here in 1948, 1949, and in 1950 regarding the Isabella project on Kern River. The Isabella project, as indicated by Mr. Griffith and Mr. Kaupke, is at this point on the map, Mr. Chairman [indicating], about 50 miles upstream from the city of Bakersfield, which lies about 15 miles outside of the mouth of the canyon of the river. The flows in the river which cause floods originate, some of them, on the slopes of Mount Whitney, the highest mountain in the United States, and at times of peak floods, such as we had in November of last year, which have already been referred to by Mr. Griffith and Mr. Kaupke, we have had only about 12 to 15 hours of notice at Bakersfield of the arrival of such floods.

TOTAL COST AND AMOUNT OF EXPENDITURES TO DATE

To date the Congress has appropriated $9,263,000 for the Isabella project. The total present estimated cost is $19,050,000. With the funds already appropriated, work has been commenced on the auxiliary dam, a diversion tunnel and gates, the acquisition of reservoir lands, the movement of public roads and public utilities, and certain changes that have to be made to the existing hydroelectric project which lies partly in the reservoir site.

The acquisition of reservoir lands has been slow, necessarily, because of inadequate appropriations which Congress has been forced to make in the past, and has caused certain hardships in the area. In the reservoir area there are two small communities where people with homes have been unable to move because of lack of appropriations to pay them for their property.

AMOUNT REQUESTED

I am appearing in support of the water resources board's recommendation of a $5,000,000 appropriation for the fiscal year 1952. The Bureau of the Budget recommended $4,975,000 and the House committee has recommended $4,500,000. It is my understanding that the schedule of the Army plans to complete this project during the year 1953.

BUDGET BUREAU ACTION

Senator ECTON. What was the budget's recommendation?

Mr. HENDERSON. $4,975,000.

Shortly after the floods of November 1950, Governor Warren wrote a letter to President Truman urging that certain projects in the San Joaquin Valley and in the Sacramento Valley have suplemental appropriations for the fiscal year 1951 in order that their completion might be accelerated. That request was not approved.

FLOOD DANGER

Mr. Griffiths, of course, has described these floods in general already, but at that time the peak of the Kern River at Bakersfield was twice as great as any previously recorded peak flow over a period of 57 years of records.

At times of peak flood flow, due to the grade of the river bed in that vicinity, velocities of 8 to 10 feet per second are created in the stream at Bakersfield, which are very hazardous to the maintenance of levees. At the time of the flood in November 1950, bridges were washed out, and other structures were severely damaged. Some work at the dam site was damaged.

Senator KNOWLAND. Mr. Henderson, may I interrupt you at this point and ask you whether the flood danger there is not only deterimental and damaging to agriculture in the area, but also to oil production? Can you go into that?

Mr. HENDERSON. I intend to come to that, Senator Knowland.

At the peak of this particular flood, for example, the water level in the river at Bakersfield stood 20 feet above the center of the business district. If the levees had been breached, several million dollars of additional damage would have been created.

The Corps of Engineers estimated that Kern River by itself caused damage of approximately $3,000,000 during that particular flood.

Senator STENNIS. Will you repeat that? How high was the water?

Mr. HENDERSON. It was 20 feet above the center of the business district.

The Kern River has created, as Mr. Kaupke has described the Kings River, a delta which slopes from the channel in both directions north and south. The city of Bakersfield lies on the flank of that delta, so that if a break occurred in the river levee, a portion of the flood would flow down the side of the delta and inundate the business district.

Chairman MCKELLAR. Mr. Henderson, I am looking at the figures that I have before me:

HOUSE ACTION

Last year this project had $2,855,000 and this year the budget estimate is $4,975,000. What did the House do about that amount?

Mr. HENDERSON. They recommended $4,500,000.

Chairman MCKELLAR. $4,500,000?

Mr. HENDERSON. That is right, sir.

Chairman MCKELLAR. That would be about $2,000,000 more than the past year, approximately?

Mr. HENDERSON. Yes, sir.

Chairman McKellar. I am just wondering whether, under the circumstances, that would not be a reasonable amount? Why do you think we ought to make it larger? I want to get your views.

Mr. Henderson. Because the project has come to the point now, Senator, where it is necessary to commence the work on the main dam. They have completed the construction of the diversion tunnels, and the next step in the project is a continuing contract for the carrying on of construction of the dam itself.

Chairman McKellar. And if there is no appropriation, it would stop the work?

Mr. Henderson. That is right.

Chairman McKellar. But an appropriation larger than you had last year would not stop the work, would it? I would like to ask Colonel Potter what he has to say about that.

Colonel Potter. The amount of money that is given this year, sir, will determine the rate at which the main dam is built. In the case of Isabella Dam, the odds and ends of work that have to be done before the main contract can be let—that is, preparatory work and relocations—have been completed, practically, and we are ready to start the main dam, which is not a very large structure. What we get this year will determine how fast we get that finished and whether we protect against a flood a year from now or a flood 2 years from now.

Chairman McKellar. The budget recommended what amount for this project?

Colonel Potter. $4,975,000. That was a project, sir.

Chairman McKellar. And the House reduced that amount to $4,500,000?

Colonel Potter. That is right, sir.

Chairman McKellar. Well, that would not meet your plans in connection with this project?

Colonel Potter. With that amount of money, sir, we would have to cut down the main dam contract by almost that full amount of the reduction. The remainder of the amount is due for roads and utilities, the purchase of lands and clearing, which must go ahead, because they must be finished before we could start to impound floodwater in the reservoir.

Chairman McKellar. Yes, sir.

Senator Knowland. As I understand the colonel, the main thing is the time element—that is, as to whether this might be completed a year earlier than if the slow-down took place.

Colonel Potter. Yes, sir. Being an earth dam and the floods out there being severe flash-type floods, we would not like to leave it in an uncompleted status during one of these floods, because the dam could well be severely damaged.

Senator Knowland. Of course, if that did happen, the total cost might go up considerably, if you lost a good deal of your work?

Colonel Potter. It would; yes, sir.

Chairman McKellar. All right. Go ahead.

OIL INDUSTRY

Mr. Henderson. To further emphasize the point that Senator Knowland brought out, Mr. Chairman, in addition to the agricultural lands in the vicinity of Bakersfield, and extending down to Tulare

Lake, which are damaged by floods, commencing at Bakersfield and thence downstream for a distance of about 20 miles to the southwest there are a succession of oil fields, some of them very high-pressure oil fields, which produce oil and gas of high quality, and all of the other byproducts that come with the production of the basic oil. The wells would be severely damaged if a flood should wash out the foundations of the derricks and release the tie rods which hold the valves in place on top of the well casings. In other words, the wells are all flowing wells, operating under tremendous pressures, and anything that would release the pressure without control would cause serious permanent damage to the wells and the oil-bearing sands.

In addition to the wells in these fields, there are plants which not only extract the gasoline from the gas, but recycle the dry gas, after the gasoline is taken from it, back into the structure, to maintain pressures, so that a full recovery of the oil can be realized. It is a very important industry, and several very large fields are exposed to damage.

LEVEES

As a matter of fact, in 1942, the operators of these fields and the owners of the property spent between a half-million and one million dollars to construct what levees they could out of the existing materials, to protect the portions of the fields that they could.

The levees are made of an alkali soil that is subject to deterioration very easily.

So, that is an important matter. In addition to agriculture and oil, at Bakersfield there are two main-line railroads, the Southern Pacific and the Santa Fe, which cross Kern River. They carry great quantities of the produce of the valley, both east and west. Furthermore, the main traffic artery of the Pacific coast, United States Highway 99, crosses the river at Bakersfield. So there is a problem of transportation that could be seriously damaged.

ISABELLA RESERVOIR IRRIGATION FACILITIES

The Isabella Reservoir will provide a nominal betterment to the existing irrigation facilities by controlling water and releasing it at times when normally it would not be available. For this service the irrigation interests have indicated their willingness to contribute a reasonable and equitable sum to the cost of this project. These service areas have been in operation since between 1870 and 1890, and have fully developed the normal flow of the stream. With that flow of the stream they have no need for any supplemental water from any outside source. We are able to operate without any supplement from the Central Valley or any other project that might be conceived. So it is hoped that the committee will give full consideration to this project and assist in continuing its progress in order that it may be completed at an early date.

I have with me today Mr. Walker of Isabella, who is a member of the Board of Supervisors of Kern County. He lives in the reservoir area. He has a statement to file and he would like to say just a few words to you.

Senator STENNIS. May I ask you one question, Mr. Henderson? What did you say about this local contribution? You said that they were willing to make some contribution?

Mr. HENDERSON. A reasonable, equitable contribution.

Senator STENNIS. Has anything been worked out on that?

Mr. HENDERSON. There are studies being made, Senator, at the present time. We have been cooperating with the Army and we are making our own study.

Senator STENNIS. You are not talking about the cost of building the reservoir now?

Mr. HENDERSON. I am talking about making a contribution to the cost of the reservoir for the use of the conservation feature.

Senator STENNIS. Does the map indicate where this reservoir is? Is it where the name "Isabella" appears?

Mr. HENDERSON. Yes; that yellow patch there is the reservoir.

Senator STENNIS. That is what I thought.

Mr. HENDERSON. This is the whole valley laid out here on this map. This is the Sacramento Valley and this is the San Joaquin Valley.

Senator STENNIS. How long is it?

Mr. HENDERSON. About 500 miles.

Senator KNOWLAND. The Sacramento Valley is the upper part and the San Joaquin Valley is the lower part.

Senator STENNIS. I see. Thank you very much.

Chairman MCKELLAR. All right, sir; we are very much obliged to you. Who is the next witness?

Mr. GRIFFITH. Mr. Ardis M. Walker.

STATEMENT OF ARDIS M. WALKER, MEMBER, BOARD OF SUPERVISORS, KERN COUNTY, CALIF.

ISABELLA DAM, CALIF.

Mr. WALKER. Mr. Chairman and gentlemen of the committee, I am Ardis M. Walker, member of the Board of Supervisors of Kern County.

I have a written statement here to submit on behalf of the board, and a few remarks that I would like to make, which will be confined to the problem which exists.

Chairman MCKELLAR. The statement will appear in the record at this point.

(The statement referred to is as follows:)

STATEMENT OF KERN COUNTY BOARD OF SUPERVISORS, BAKERSFIELD, CALIF.

We members of the Board of Supervisors of the County of Kern, State of California, have gone on record unanimously favoring adequate appropriations for authorized flood-control projects affecting the lives and fortunes of thousands of citizens of California's great Central Valley.

Our first concern is the long-established and ever-growing need for such projects in an area where highly intensified agricultural and industrial activities have developed. These activities, representing the investment of millions of dollars, would now be at the mercy of floodwaters should there ever be a repetition of past floods of historic times. The high waters of November 1950, while not approaching the volume of historic floods, pointed up the tremendous havoc which would accompany extreme flood conditions. During the November flood, Kern County alone sustained more than a million dollars in damages from the rampaging Kern River. This loss does not complete the total of losses attributable to delay in completion of Isabella Dam which would have harnessed the waters of Kern River for useful purposes. The productive value of wasted water, to agriculture and power, represented other millions.

We are also concerned in the interest of efficiency and economy that the Congress make ample appropriations for continuing contracts on projects in the

process of construction. The delayed progress and rising costs on Isabella Dam in Kern County have aggravated this concern. The original estimates on the cost of this project were set at $6,800,000. Meantime, because inadequate appropriations have forced the Army Engineer Corps to let patchwork contracts in dribbling amounts, more than $9,000,000 has been expended over the years and construction of the main dam has not been started as yet. In the light of rising prices and past experience, the over-all cost estimate has now risen to more than $20,000,000. Much of this mounting cost can be laid to the unnecessary overhead occasioned by repeatedly letting small piecemeal contracts. Such procedure makes it necessary for the Engineer Corps to build up an organization when small sums become available for contracts, then disband such organization while awaiting succeeding appropriations. Meantime the cost of moving men and equipment in and out with each succeeding contract is reflected in the bids.

Well realizing the tremendous responsibility to strengthen our national defenses which now rest upon the Congress, we also know that the Members of Congress are as much concerned as we with the preservation and strengthening of the inner sinews of our democracy. We are firmly convinced that the tremendous oil and agricultural output of Kern County represents a sizable contribution to the strengthening of such sinews. Appropriations adequate to insure continuing contracts on such projects as are under construction will serve to cut economic waste and insure efficiency during construction. They will also strengthen the guaranty that there will be no let-down in sorely needed production.

ISABELLA DAM AREA

Mr. WALKER. The problem which exists is in the area of the dam itself. I can speak with authority on that, having my own property about 80 feet under this water as soon as the dam is built.

When this dam was first authorized, it was almost an automatic condition that anyone having property within the area of the dam had his property off the market. Since that time, because of the limitation on the appropriations, the Army engineers, from time to time, have given the people in the area different deadlines, as to when they would have to make their necessary relocations.

Those deadlines have had to be changed from time to time, and there are many of us there, including myself, who are not able to make the necessary adjustment to evacuate because of the construction of the dam. This has also affected school districts in the area which have lost their tax base and are very anxious, that is, the school boards are certainly very anxious, for the people to get relocated on taxpaying property, that they relocate their businesses and their homes, and other activities, so that they can build up the damage that has been done to their tax base.

Those people feel that approximately 10 years has now passed, and some of them are still waiting to be reconsidered on the relocation problems. Some of them have already purchased property and they would like to salvage their homes and move them to that property, but they have no roads constructed yet on which to move. Others are still awaiting the relocation of utilities so that they can move.

Many of these things have been held up because of the fact that the appropriations had to be spread pretty thin. I think that a very great amount of justice could be done to those people who are sacrificing for the general good, if Congress could see its way clear to grant enough of an appropriation so that there could be a continuing contract, and those people would have some idea of, as I say, what the score is, so that they can know when they can remove their property and relocate themselves.

I speak these few words of mine on their behalf.

Chairman McKellar. Are there any questions?

Senator Ecton. I would like to ask whether a settlement has been reached with those property owners that live in this area?

Mr. Walker. In some cases there have been settlements reached, and in other cases there have not.

LAND TITLE PROBLEMS

Senator Ecton. Why is that so? As long as the dam is under construction, why should not agreements and settlements be reached before they ever go in there and cause them all this anxiety? If somebody came in on my property and wanted to flood me out, I would want to know what I was going to get before they commenced.

Mr. Walker. That is a question that any property owner would ask. But, on the other hand, I don't imagine that the Army Engineers would have full power over what they could do to solve those problems. That is one reason why I am asking for adequate appropriations so that those problems can be solved.

Senator Ecton. Well, I think that if we are going to build these dams there should be adequate appropriations to take care of those problems. I am just asking for my own information. How long can it drag along?

Mr. Walker. Well, that is just what we want to know. We want to get the answer to that problem, because, in my own case, I haven't had any agreement reached as yet between myself and the Government on the property that I have that is involved.

Chairman McKellar. You mean the value of your property?

Mr. Walker. They made an appraisal in my case which I did not accept.

DISCUSSION OF KANSAS FLOOD CONTROL PROBLEMS

Chairman McKellar. As somebody suggested this morning, we had a lot of trouble out in Kansas. General Pick, I believe, it was, last Thursday testified—well, what came up is just the same as in this case. One witness said that the Government was not doing its duty in building this dam. It had been authorized, and the money had been appropriated, he said, years ago. I believe that was as far back as 1946, although I am not sure. He said that they hadn't built the dam.

I asked General Pick why that was, and he very promptly stated that there was trouble between the landowners in the dam site. They did not want their land taken, and they were opposing in every way and had prevented the building of the dam. In the course of his testimony he said this:

> These three dams were put together.

He said that there was a cost of $300,000,000 for the dams recommended by the Corps of Engineers. He said that if they had been built there would not have been this flood at Kansas City.

He said:

> The flood losses—

from what I understand, and I am using his words—

amount to about $300,000,000 now, and for that sum we could have built the dams.

But on account of the local differences of opinion as to whether the dams ought to be built or whether some other dams that had never been looked into should be built, they had not been built.

The next days the papers appeared with statements of the tremendous loss of lives—I think there were over 14 or 15 people drowned—and they claimed that the damage might go up to $1,000,000,000, or a very large sum, anyhow, all because the three dams had not been built.

I am hoping that if you want to further this project you will get together. I hope you will agree on a price.

Mr. WALKER. I think you will find, Senator, that there has been no opposition to the building of the dam, but there is the necessary adjustment that has to be made.

For instance, if I have a little difference of opinion with their appraisal, the only way I can settle that is in the courts, which I am doing. It is not that I am opposed to the building of the dam, nor is anyone else.

In the meantime I have purchased other property and contacted the power company, just as an example, the other day, and asked them when I could get power on that property. They didn't know as yet. We have had those continuing dead lines all this time, and yet we cannot make a move because we don't know those answers.

It is not a matter of friction; it is a matter of adjustment.

Senator KNOWLAND. I want the record to be clear that the supervisor was not opposing this dam, and that it has the general approval of the area.

Mr. WALKER. In fact, we have voted favorably on many occasions, favoring the dam.

Chairman MCKELLAR. All right. Thank you very much.

Mr. WALKER. Thank you, sir.

Chairman MCKELLAR. Will you call the next witness?

Mr. GRIFFITH. The next witness is Mr. Charles Deterding, county manager of Sacramento County.

STATEMENT OF CHARLES DETERDING, COUNTY MANAGER, SACRAMENTO COUNTY, CALIF.

FOLSON DAM PROJECT, CALIF.

Mr. DETERDING. Mr. Chairman and gentleman of the committee; my name is Charles W. Deterding. I am county manager of Sacramento County, Calif.

I have a statement for the record, and likewise a resolution from the city council and the mayor of the city of Sacramento.

Senator STENNIS. What is the substance of those?

Mr. DETERDING. They support the Folsom project and authorize me to be here to represent them.

Likewise, I have a resolution from the Sacramento Chamber of Commerce and a resolution from the Sacramento Board of Supervisors. I would like these submitted for the record.

Chairman McKellar. They will be inserted in the record at this point.

(The documents referred to are as follows:)

STATEMENT OF CHARLES W. DETERDING, COUNTY EXECUTIVE, SACRAMENTO, CALIF.

Mr. Chairman, my name is Charles W. Deterding. I am the county executive of Sacramento County, Calif. This statement is presented to your committee on behalf of the county of Sacramento, the city of Sacramento, and the Sacramento Chamber of Commerce. It represents the combined opinions of the city of Sacramento, the Sacramento Chamber of Commerce, and the county of Sacramento.

It has been my privilege to appear before this committee on many occasions, in behalf of the Folsom Dam project on the American River, Calif.

You have been very considerate of our request, and I wish to express my appreciation for your patience and support of the Folsom project.

In presenting our case, we have tried to be factual in pointing out the need and justification for the dam.

As you know, the project went through considerable congressional discussion, having been changed from a purely flood-control reservoir to a multipurpose project, and you have seen fit to make appropriations to start construction.

This water-year proves beyond doubt the logic of your reasoning in making the Folsom Dam a multipurpose project. Probably there never was a better demonstration of the soundness of the policy of constructing a multipurpose water-conservation project than is presented by the conditions that prevail on the American River watershed this year.

We in Sacramento are very well satisfied with the outcome of all these proceedings.

In discussing our fears of disastrous floods in Sacramento from the American River, I have repeatedly called to your attention the involved characteristics that make the runoff of the American River uncertain and unpredictable.

The hydrology of the American River watershed is exceedingly complex. A complete analysis of all pertinent data furnishes us with sufficient evidence to predict the probability of excessive floods occurring anytime, likewise the summer flow is equally as uncertain and undependable.

Every river at some time in its history repeats or exceeds its maximum runoff. The American River is no exception.

During the last half of November and the first week of December 1950, approximately 42.5 inches of rain fell on the American River watershed. On November 18, 1950, 7 inches of rain fell in 24 hours, resulting in a flood only slightly under that of 1861–62, and producing a discharge of 210,000 cubic feet per second at Folsom. With the exception of the 1861–62 flood, the measured maximum flood of the American River was 184,000 second-feet or 26,000 second-feet less than the November flood of last year, and greater than any flood we have experienced in 89 years.

The flood inundated large areas of highly developed property, damaged homes, washed the topsoil from farm lands, topped levees, flooded highways, threatened the main-line trestles of the Southern Pacific Railway and Western Pacific Railway, and caused considerable anxiety in Sacramento at peak stages.

The damage to property has been even more than we had contemplated. Approximately 6,000 acres have been flooded, and the loss has been estimated at approximately $3,000,000.

So I am here today urging, as I have in the past, that you recognize the seriousness of our flood problem and assist in appropriating ample funds to finish the Folsom Dam at the earliest possible date.

Not only has this been a year of destructive and excessive floods on the American River, but likewise it is going to be a year of extreme shortage of summer water.

The snow pack on the watershed of the American River has been about 50 percent of normal. The rainfall on the service area of the American River has been less than the normal pattern of precipitation since mid-December.

Normally the snow is all melted at the Donner Summit snow-gaging station about June 1. On years of heavy snowfall the snow is not off the ground until after early July.

This year the summit was clear of snow on April 15, or about 45 days ahead of normal. Therefore, the service area started using its summer reserves 45

days earlier than usual. The result will be that by midsummer the watershed yield will be reduced to a minimum and there will be very little water in the American River.

The final result is that after the destructive floods of November and December the service area is confronted with a definite shortage of water for the many uses that are demanded from the summer flow of the American River.

The storage of floodwater behind the Folsom Dam in a water year such as we are now experiencing would be most beneficial and helpful to the economy of the State. There is a heavy demand for water from every area of the Sacramento and San Joaquin Valley. With a shortage of summer flow in the American River, much of northern California's agriculture is going to be affected.

As I have stated before, the Folsom project is truly an economic undertaking. With the tremendous demands for irrigation water and flood protection to meet the needs of a rapidly growing community, this project cannot be completed too soon.

From personal studies I have estimated that 750,000 to 800,000 cubic yards of concrete would provide storage for approximately 200,000 acre-feet of floodwater. This amount of storage would reduce the flood crest of the American River and assist in reducing flood damage.

It is estimated that had the dam been to the stage where it could have impounded 200,000 acre-feet of storage, it could have been operated to reasonably control the American River this year.

While this is by no means what is required, it would contribute substantially to maintaining the river at a height that we can handle for a few years while the dam is being completed.

Time is essential, and again I urge that you seriously consider our flood situation by supporting a liberal appropriation for the Folsom Dam.

The status of the Folsom Dam project under construction, but not complete, is as follows:

Folsom Dam

Estimated total cost	$50,792,000
Appropriations to date	8,500,000
Required to complete	42,292,000

Construction status as of January 1950.

Dykes 1, 2, 3, 4, 6—90 percent complete.

Abutment excavation—present contract complete.

Bypass tunnel (excavation only)—90 percent complete.

Administration and service buildings—completed.

Right wing dam—completed.

P. G. & E. 12-kilovolt power line relocation—90 percent complete.

Blue Ravine road relocation—10 percent complete.

Work to be started: main dam contract, additional real estate acquired, additional relocation of utilities, Mormon Island Dam, and diversion tunnel.

With the present expenditure of approximately $8½ million, no benefit will be derived until some work is done on the main dam—750,000 to 800,000 cubic yards of concrete would bring the dam up to a height where flood storage would produce an immediate beneficial result on the flood crests in the vicinity of Sacramento.

This will require an appropriation of approximately $9,000,000. Such an expenditure would eliminate all hazards of flooding the State highway, the two main line railroads thus assuring uninterrupted transportation to all of northern California. It would protect homes and property from flooding.

It is also important to the area that the dam be completed as soon as possible so as to put in operation the power plant, the generators for which are now under contract.

The county of Sacramento at the present time has under construction 6½ miles of road on the west side of the reservoir and approximately 2 miles on the south side. Improvement of road alinement, widening and other details are now in the process of development and construction.

In every way possible the county is assisting or cooperating with the Federal Government to get the project completed.

This is a project so vital to the safety of property and the growth of this area that the State, county, and city are wholeheartedly cooperating that this dam be completed. We respectfully request that a substantial appropriation be authorized so as to complete the project at the earliest possible time.

RESOLUTION ON FOLSOM DAM PROJECT

Whereas the Congress of the United States has already approved the development of an important water conservation, flood control and hydroelectric power development by its approval of funds for the building of Folsom Dam on the American River 22 miles north of Sacramento, Calif.; and

Whereas the watersheds adjacent to the American River develop a tremendous quantity of water which flows past the city of Sacramento and which has recently caused flood conditions in the area immediately adjacent to the city; and

Whereas the property in the area mentioned has greatly increased in value due to the great amount of residential, commercial, and other types of development; and

Whereas such flood conditions caused important highways to be under water and the one bridge serving the area to be closed to traffic from the important military installations at Mather Air Force Base and McClellan Air Force Base causing great inconvenience to the operation of the bases; and

Whereas the same flood conditions created costly delays in the movement of goods and people on the transcontinental railroads serving Sacramento; and

Whereas these flood conditions caused the inundation of State and Federal highway, intrastate and interstate bus operations were subjected to costly delays; and

Whereas the United States Corps of Engineers has estimated this flood damage to property at $3,000,000; and

Whereas the electric power to be created by the hydroelectric power plants proposed to be constructed at Folsom Dam will be needed for industrial expansion now under way in the northern California area and the water conserved by the dam can supply water to approximately 300,000 acres of land, not now under irrigation; and

Whereas this land when irrigated will provide a greatly increased food supply for the country; Be it

Resolved, That the board of directors of the Sacramento Chamber of Commerce authorize Mr. Charles W. Deterding, Jr., county executive of Sacramento County, to represent this organization at the various hearings before congressional committees to present the facts supporting the need for an appropriation of $9,000,000 for flood control on the American River for the completion of Folsom Dam for the multiple purposes of development of electric power, water for irrigation, domestic and commercial purposes; be it further

Resolved, That in the event of the inability of the chamber's authorized representative to appear before the various congressional committees then Mr. Bert E. Geisreiter, mayor of the city of Sacramento be authorized to serve as an alternate representative of the Sacramento Chamber of Commerce.

This is to certify that the foregoing is a true and correct copy of the resolution adopted at the regular meeting of the board of directors of the Sacramento Chamber of Commerce held Monday, March 26, 1951.

[SEAL]

BEVERLY C. GIBSON,
Secretary-Manager.

RESOLUTION BY THE SACRAMENTO CITY COUNCIL, JULY 12, 1951

FLOOD CONTROL PROJECT, SACRAMENTO AND AMERICAN RIVERS, NORTHERN CALIFORNIA

Whereas extremely devastating, damaging and costly floods have occurred frequently on the Sacramento and American Rivers over a period of 100 years; and

Whereas the Federal Government has recognized by the appropriation of large sums for flood control on the Sacramento River since the year 1913; and

Whereas the Sacramento River flood control project has been under construction by the Federal Government since said year at an expenditure now in excess of $50,000,000; and

Whereas the American River with its banks along the east and north boundaries of the city of Sacramento has also frequently caused tremendous damage and destruction at flood peaks, last winter being one of the most severe and caused the loss of many millions in homes, industries, and highly productive agricultural lands, as well as approaching within inches at various stages of overflowing the high levee systems surrounding this city; and

Whereas the city of Sacramento at the confluence of these rivers will continue its extremely hazardous position of menacing floods until both the Sacramento River and the American River Folsom Dam flood control projects are fully and finally completed: Now therefore be it

Resolved by the City Council of the City of Sacramento, That Congress be earnestly urged to appropriate substantial sums to continue the flood-control project on the Sacramento River and to continue construction of the Folsom Dam on the American River; and be it further

Resolved, That Hon. Charles W. Detterding, county executive of the county of Sacramento, be authorized to personally appear before the appropriate senatorial committees in Washington to further present factual information and the urgent need of said flood-control projects to solve the recurring floods and to permanently prevent the further loss of water from the Sacramento and American Rivers, respectively.

Adopted by the City Council of the City of Sacramento in regular session on this 12th day of July 1951.

BERT E. GEISREITER, *Mayor.*

Certified as correct this 12th day of July 1951.

[SEAL] H. G. DENTON, *City Clerk.*

SACRAMENTO COUNTY BOARD OF SUPERVISORS—RESOLUTION No. 10359

Whereas the county of Sacramento has always been concerned with the menace of floodwaters from the American River; and

Whereas in November and December 1950, floods of unprecedented proportions from the American River caused extensive damage in the vicinity of Sacramento; and

Whereas the present snow pack on the watershed of the American River is now one-third of normal; and

Whereas the watershed yield this summer will be far below the requirements of the service area; and

Whereas the need for the Folsom Dam as a flood control and water conservation project is vital to the economy of the State: Now, therefore, be it

Resolved, That the Board of Supervisors of the County of Sacramento, State of California, earnestly urge that a substantial appropriation be authorized to start construction on the main dam this year; and be it further

Resolved, That Charles W. Deterding, the county executive for the county of Sacramento, State of California, be authorized to personally appear before congressional committees in Washington, D. C., to present the facts and the need for the Folsom Dam.

Passed and adopted by the Board of Supervisors of the County of Sacramento, State of California, this 16th day of July 1951, by the following vote, to wit:

Ayes: Supervisors Elmer, Hoffman, Kelley, Garlick.

Noes: Supervisors, none.

Absent: Supervisor Bonetti.

JAMES R. GARLICK,
Chairman of the Board of Supervisors, Sacramento County, Calif.

Attest:

[SEAL] C. C. LARUE, *County Clerk,*
By WM. H. DICK, *Deputy Clerk.*

SACRAMENTO COUNTY BOARD OF SUPERVISORS—RESOLUTION No. 10079

Whereas the county of Sacramento has always been concerned with the menace of floodwaters from the American River; and

Whereas in November and December 1950, floods of unprecedented proportions from the American River caused extensive damage in the vicinity of Sacramento; and

Whereas the present snow pack on the watershed of the American River is now one-third of normal; and

Whereas the watershed yield this summer will be far below the requirements of the service area; and

Whereas the need for the Folsom Dam as a flood control and water conservation project is vital to the economy of the State: Now, therefore, be it

Resolved, That the Board of Supervisors of the County of Sacramento, State of California, earnestly urge that a substantial appropriation be authorized to start construction on the main dam this year; and be it further

Resolved, That Charles W. Deterding, the county executive for the county of Sacramento, State of California, be authorized to personally appear before congressional committees in Washington, D. C., to present the facts and the need for the Folsom Dam.

Passed and adopted by the Board of Supervisors of the County of Sacramento, State of California, this 23d day of April 1951, b ythe following vote, to wit:

Ayes: Supervisors Bonetti, Elmer, Hoffman, Kelley, Garlick.

Noes: Supervisors, none.

Absent: Supervisors, none.

JAMES R. GARLICK,
Chairman of the Board of Supervisors, Sacramento County, Calif.

Attest:

[SEAL]

C. C. LARUE, *County Clerk*,
By WM. H. DICK, *Deputy Clerk*.

FOLSOM DAM, AMERICAN RIVER, CALIF.

Mr. DETERDING. It has been my privilege to appear before this committee on many occasions on behalf of the Folsom Dam project on the American River in California.

You have been very considerate of our requests, and I wish to express my appreciation for your patience and support of the Folsom Dam project.

In presenting our case we have tried to be factual in pointing out the need and justification for the dam. As you know, the project went through considerable congressional discussion, having been changed from a purely flood control reservoir to a multipurpose project, and you have seen fit to make appropriations to start construction.

This water year proves beyond a doubt the logic of your reasoning in making the Folsom Dam a multipurpose project. Probably there never was a better demonstration of the soundness of the policy of constructing a multipurpose water conservation project than is presented by the conditions that prevail on the American River watershed this year.

We in Sacramento are very well satisfied at the outcome of all these proceedings. In discussion of our fears of disastrous floods in Sacramento from the American River, I have repeatedly called to your attention the involved characteristics that make the runoff of the American River uncertain and unpredictable.

The hydrology of the American River watershed is exceedingly complex. A complete analysis of all pertinent data furnished us with sufficient evidence to predict the probability of excessive floods occurring any time.

Likewise the summer flow is equally as uncertain and undependable.

Every river at some time in its history repeats or exceeds its maximum runoff. The American River is no exception.

1950 FLOOD STAGE

During the last half of November and the first week of December 1950, approximately 42.5 inches of rain fell on the American River watershed. On November 18, 1950, 7 inches of rain fell in 24 hours, resulting in a flood only slightly under that of 1861–62, and producing a discharge of 210,000 cubic feet per second at Folsom.

With the exception of the 1861–62 flood, the measured maximum flood of the American River was 184,000 second-feet or 26,000 second-feet less than the November flood of last year, and greater than any flood we have experienced in 89 years.

The flood inundated large areas of highly developed property, damaged homes, washed the top soil from farm lands, topped the levees, flooded highways, threatened the main line trestles of the Southern Pacific Railway and the Western Pacific Railway, and caused considerable anxiety in Sacramento at peak stages. The damage to property has been even more than we had contemplated. Approximately 6,000 acres have been flooded, and the loss has been estimated at approximately $3,000,000.

So I am here today urging, as I have in the past, that you recognize the seriousness of our flood problem and assist in appropriating ample funds to finish the Folsom Dam at the earliest possible date.

WATER SHORTAGE

Not only has this been a year of destructive and excessive floods on the American River, but likewise, it is going to be a year of extreme shortage of summer water. The snow pack on the watershed of the American River has been about 50 percent of normal. The rainfall on the service area of the American River has been less than the normal pattern of precipitation since mid-December.

Normally the snow is all melted at the Donner Summit snow gaging station about June 1. In years of heavy snowfall the snow is not off the ground until after early July. This year the summit was clear of snow on April 15 or about 45 days ahead of normal. Therefore the service area started using its summer reserves 45 days earlier than usual. The result will be that by midsummer the watershed yield will be reduced to a minimum and there will be very little water in the American River.

The final result is that after the destructive floods of November and December, the service area is confronted with a definite shortage of water for the many uses that are demanded from the summer flow of the American River.

FOLSOM DAM RESERVOIR STORAGE

The storage of floodwater behind the Folsom Dam in a water year such as we are now experiencing would be most beneficial and helpful to the economy of the State. There is a heavy demand for water from every area of the Sacramento and San Joaquin Valley. With a shortage of summer flow in the American River much of northern California's agriculture is going to be affected.

As I have stated before, the Folsom project is truly an economic undertaking. With the tremendous demands for irrigation water, flood protection, and navigation to meet the needs of a rapidly growing community, this project cannot be completed too soon.

As the American River reaches its summer stage, we are beginning to observe the effects of last winter's flood on the Sacramento River. The Sacramento River is under the control and jurisdiction of the United States Army engineers. This flood-control project was authorized by an act of Congress on March 1, 1917.

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Federal funds must now be proovided to make repairs on these levees, bank revetments, and other works of flood control. This will continue to be a recurring expense until the Folsom Dam is completed.

In addition, sand bars are now beginning to interfere with navigation of the Sacramento River. The Federal Government maintains the Sacramento River as a navigable channel. Here again Government funds must be provided to keep the channel open to navigation this year.

Funds appropriated for the completion of Folsom Dam will, in addition to the elimination of flood hazards in the vicinity of Sacramento, materially effect savings in the cost of maintenance for flood control and navigation on the Sacramento River to the Federal Government.

EXPENDITURES TO DATE ON FOLSOM PROJECT

Work on the Folsom project is now well under way. Eight and a half million dollars have been appropriated. That the construction may proceed in an economical and efficient manner, it is necessary that ample funds be provided to carry out the work in conformity with sound construction methods.

The county of Sacramento is lending its support and cooperation in every way possible to assist the United States Engineers in carrying out the details of construction. This is a project that is vital to central California, and your favorable support will be greatly appreciated.

We respectfully request that substantial funds be authorized for the early completion of this project.

In addition, Mr. Chairman, I am a director of the Central Valley Flood Control Association. This is an association made up of counties, reclamation districts, and land owners in the Sacramento Valley affected by flood control. Their interest is flood control and the completion of federally authorized flood control projects.

The Sacramento River flood control project, as I said before, was authorized on March 1, 1917, and is one of the projects that is before you for consideration.

LEVEES ON SACRAMENTO RIVER AND TRIBUTARIES

This project includes levees on both sides of the Sacramento River and its main tributary. A good portion of whatever money is appropriated to this project this year must be spent to repair levees and works of reclamation that were affected by the floods of last winter.

In addition, there is the Sacramento River major and minor tributaries project. These affect the river in its upper channels, and some of the minor tributaries, and this is a project in which we are vitally interested.

In addition, a project known as the Black Butte Reservoir would materially affect flood control in the upper Sacramento Valley and is vital to the needs of the northern part of the Sacramento Valley.

I thank you, sir.

Mr. Chairman, I have a statement from Mr. John M. Luther of the California Central Valleys Flood Control Association, which I would like to have inserted in the record.

Chairman McKellar. Very well, it will be inserted in the record at this point.

(The statement referred to is as follows:)

STATEMENT OF JOHN M. LUTHER, CALIFORNIA CENTRAL VALLEY FLOOD CONTROL ASSOCIATION

The association for which I appear represents the landowners in the reclamation districts of the Sacramento Valley who are directly concerned with the completion of federally authorized flood-control projects. We request the consideration of your committee of appropriations in amounts indicated in the following for the Sacramento River flood-control project, the Sacramento River major and minor project, the Black Butte Dam and Reservoir, and Folsom Dam.

SACRAMENTO RIVER FLOOD CONTROL PROJECT

The authorized project consists of all levees and other works listed in the Grant report, House Document No. 23, Sixty-ninth Congress, first session, including their reconstruction to revise grade and section with graveled crown roadways as specified in House Document No. 649, Seventy-eighth Congress, second session. The project includes levees on both banks of the American, Bear, Feather, Sacramento and Yuba Rivers; Cache, Honcut, Dry, and Putah Creeks; the Sacramento, Sutter, Tisdale, Willow slough, and Yolo bypass channels and connecting sloughs in the area. The project extends from Collinsville in Solano County north to Chico Landing in Butte County, and was first authorized by the act of Congress of March 1, 1917. It has been subsequently modified by congressional acts of May 15, 1928; August 26, 1937; August 18, 1941; and December 22, 1944.

The California State Legislature has authorized the project for State participation by its statutes of 1911, 1913, 1915, 1925, and 1945. When completed the project will protect highly developed agricultural lands comprising an area of approximately 1,000,000 acres located in the Sacramento Valley and Delta, together with the major valley cities and towns, including a large number of military installations and lines of communication and transportation. Total funds expended or allotted to July 1, this year, is $123,000,000, of which sum the Federal allotment has approximated one-third, the balance, or about $82,000,000, being provided on about an equal basis by the State and local interests.

This is one of the main projects reviewed by Major General Lewis A. Pick when he visited California during the floods of December, last year (1950). Its rate of construction over the 24 years since the original authorization has been extremely slow. The present estimate of Federal cost to complete the project is now under study by the Sacramento District Office of the Corps of Engineers but it is believed it will approximate $15,000,000. This will include bringing up to standard grade and section some 228 miles of levees out of a total of 866 miles in the project. It will also include a graveled crown roadway on all project levees, an appreciable mileage of which presently has no roadway. The cost of emergency and normal bank protection makes up nearly half of the estimated Federal cost of completion which is a recurring annual item so long as this project remains incompleted. It would therefore appear that the budget item of $1,000,000 for this project during the fiscal year 1952 would provide little in the way of construction and that appropriations at this rate merely serve to prolong and increase the Federal cost. It is our understanding that this view is concurred in by the Chief of Engineers and that the Bureau of Budget's recommendation represents a considerable reduction below the amount requested. We believe that this project should be completed at the earliest practicable time, and certainly during the next 5 years and we are, therefore, requesting an appropriation for fiscal year 1952 of $3,000,000. This would allow completion of sections of levees now under construction at Georgiana slough, levees on the Sacramento River at Freeport and Lisbon, along the west bank of the Feather River, on Honcut Creek, Simmerly slough, and Knights Landing ridge cut.

SACRAMENTO RIVER MAJOR AND MINOR TRIBUTARIES

This project includes levee and channel improvements on eight minor streams tributary to the upper Sacramento River, portions of the Sacramento and lower Yolo bypass channels, and the levees and weirs authorized by the 1944 Flood

Control Act, and as further modified in the congressional act of 1950. The project was authorized by the State legislature for financial participation by the statutes of 1945. The present estimated Federal cost for all works included in this project is $28,000,000 of which only $1,850,000 has been expended or allocated to July 1, 1951. It is our belief that the Corps of Engineers recommended funds for this project for 1952, but no item was included by the Budget Bureau. Work currently under way on this project consists of levee construction on Little Chico and Butte Creeks. The total estimated Federal cost of this portion of the project is $1,360,000 of which about $760,000 is included in contracts for the current year for that portion of the project below the United States Highway No. 99 crossing. The elimination of the budget item will mean that construction of this project will be closed down during the 1952 year unless funds are restored. An appropriation of $600,000 would complete the Little Chico and Butte Creek works and place this project in operation.

Other jobs of high priority included in this project are the Cherokee Canal, a tributary to lower Butte Creek, and levee and channel improvements on the main Chico Creek and Mud Creek. Estimates for these works are $1,170,000 and $330,000, respectively.

We request, therefore, that an item of approximately $2,000,000 be restored to the budget for allocation to this project in order that these improvements may progress without serious interruption.

BLACK BUTTE RESERVOIR

This project consists of a multiple-purpose dam to be located on Stony Creek for flood control and water conservation. The reservoir would have a capacity of 160,000 acre-feet of which 130,000 acre-feet would be dedicated to flood control for the protection of the city of Orland and the surrounding agricultural area together with a reduction of damage from flood flows in the Sacramento River and Butte Basin at or near the confluence of Stony Creek with the main river. A firm new irrigation yield of 60,000 acre-feet annually would be provided. Total cost of the project is $12,600,000 and no construction funds have as yet been allocated nor is there an item included in the budget. Planning funds to the extent of $95,000 have been allotted and expended for investigation and planning.

Great damage in recent years has occurred from the unregulated flood flows of this stream, typical of which are the years of 1938 and 1940. A recurrence of these floods flows at the present time would cause an estimated direct damage in the area of between $400,000 or $500,000.

If any new structures are to be undertaken during the coming fiscal year under the currently authorized project program it is believed that a start of construction of the Black Butte Reservoir should be included in order that the required additional flood control may be secured for the upper Sacramento Valley in the vicinity of Orland and the Butte Basin area.

We request an appropriation of $500,000 to be included in the budget as a construction item which would make available funds for project planning, initial land acquisition and reconstruction of roads and relocations of utilities.

SUMMARY

In addition to projects reviewed in this statement the association which I represent wishes to strongly support the request of local interests for additional funds for the Folsom Dam and Reservoir project. Appropriation requests for this project together with projects reviewed in this statement for the 1952 fiscal year are summarized as follows:

Sacramento River flood-control project	$3,000,000
Sacramento River major and minor tributaries	2,000,000
Black Butte Reservoir	500,000
Folsom Reservoir	9,000,000

SACRAMENTO RIVER AND TRIBUTARIES

STATEMENT OF WILLIAM P. HARKEY, MEMBER, STATE RECLAMATION BOARD, CALIFORNIA

BLACK BUTTE DAM, FARMINGTON DAM, MERCED RIVER DAM, CALIF.

Chairman MCKELLAR. Will you call your next witness?

Mr. GRIFFITH. Our next witness is Mr. William P. Harkey, member of the State reclamation board.

Mr. HARKEY. Mr. Chairman and members of the committee, my name is William P. Harkey. I am a member of the Reclamation Board of the State of California.

I am engaged in ranching in the upper area of the Sacramento River Basin. I am presenting this statement to your committee on behalf of the Reclamation board in support of appropriations for the 1952 fiscal year. I request that this statement be inserted in the printed record.

Chairman MCKELLAR. That may be done.

(The statement referred to is as follows:)

STATEMENT OF W. P. HARKEY, MEMBER OF THE RECLAMATION BOARD OF CALIFORNIA

Mr. Chairman and members of the committee, my name is William P. Harkey. I am a member of the Reclamation Board of the State of California, and am engaged in ranching in the upper area of the Sacramento River Basin. I am presenting this statement to your committee on behalf of the reclamation board in support of appropriations for the 1952 fiscal year. I request that this statement be inserted in the printed record.

The reclamation board is the official agency of the State of California designated to cooperate with the Corps of Engineers, United States Army, by carrying out all of the State's responsibilities, under the various documents and public laws enacted by Congress, covering the construction of the Sacramento River flood-control project, and also those projects authorized, but not as yet appropriated to, for the San Joaquin River flood-control project. The reclamation board, under State law, is charged with furnishing the Secretary of the Army the various assurances as required by the documents approved by the Congress, and that of providing the necessary rights-of-way, revision of utilities, highways, and railroads, and all other matters connected with the construction of the flood-control projects, which are not the responsibility of the United States. After completion of the projects, the reclamation board is responsible to the State that the maintenance of the works is performed.

The State Water Resources Board of the State of California, which is represented before your committee by Mr. C. A. Griffith, chairman, and Mr. Sam Leedom, secretary, respectively, of the board, and others, will present to you the State-wide program. The reclamation board however, is interested mainly in those projects within the great basin of the Sacramento and San Joaquin River systems, since its jurisdiction is confined to these areas by the provisions of the Water Code of the State of California.

The requests of the water resources board for projects in the Sacramento engineering district contain, among others, those specific items set out below which are of primary interest to my board. The amounts requested therefor are generally more than that in the President's budget, but we feel that having lived with the problems back in our State, and having had the advice and assistance of our engineers who are also very familiar with the problems and who have consulted on every point connected therewith with the United States engineers, that we have set forth an estimate which is reasonable and proper for the projects, either now under construction, or which should be immediately started, for the protection of the lives of the citizens and of the economic values of our agricultural and industrial interests.

Our State has two main water problems: that of the securing of sufficient irrigation and industrial water during the summer months, and that of the disposal of the excess flood waters carried by our rivers and streams during the winter months of the year. The latter problem is the one in which my Board is mostly interested.

The various projects of immediate concern to the reclamation board comprise:

Black Butte, on Stony Creek, has been authorized but no construction money has been appropriated as yet. The appropriation of $500,000 requested is for preparation of definite project report and contract plans and specifications.

Farmington, $214,000: For continuation of construction already under way from previous appropriations.

Mercer stream group, $910,000; For continuation of construction already under way, but which is now at a standstill because of lack of funds.

Sacramento River major and minor tributaries, $2,000,000: This item to us is very important. The levees along the main stream throughout the valley are nearing completion, but the river is fed by a great many small tributaries and minor streams which, in the aggregate, pour a large amount of water into the main river channel. Since these tributaries are not as yet adequately controlled, they often break their banks or the substandard levees, which were built by individual landowners to control their floods, and spill their floodwaters into the areas which otherwise would be protected by the main river levees, and thus cause enormous damage to crops and improvements planted or erected by ranchers and others who rely on the completed project works at other points to protect them.

Sacramento River old-project $3,000,000. This project, the forerunner of all flood control in California and second, if not the first, flood control project in the United States, has reached the point where my board called upon the United States district engineers last year for a survey to determine exactly what remained to be done for the completion of the project. That survey has been completed and the district engineer has submitted to my board his conclusions on every unit of levee in the originally adopted project as to whether the particular unit has been completed to standard grade and cross-section and is provided with the proper patrol road for maintenance and inspection, or, if not to all of these standards, the status of the unit of levee and his recommendations as to what further work is necessary to complete the same. The reclamation board has in each case, submitted to the district engineer the board's views in regard to his conclusions. It is my understanding that the views of the two agencies have been brought into alinement and that the final estimate of cost as of today is to be completed during this week for submission to the Chief of Engineers.

Funds appropriated by Congress toward the completion of the project have necessarily had to be diverted from previously programed units in order to repair the great damage caused to the reaches of the river between Colusa and Knights Landing as a result of the lowering of the water in May 1948 by the shutting of the outlet gates of Shasta Dam. The removal of the water pressure from the saturated banks of the river caused them to cave in and carry with them great sections of the completed levee system. These damaged levees had to be relocated farther back from the river and, in many cases, entirely rebuilt before the following flood season to protect areas of the Sacramento Valley floor. The less seriously damaged sections are still being repaired and rebuilt, and this work will have to be further carried out during the fiscal year 1952, as well as the completion of the works delayed on account of diversion of funds to the damaged levees. During the past flood season the greatest flood of record occurred on the American River, which is a main tributary of the Sacramento River and which divides the cities of Sacramento and North Sacramento. Great damage was done by this flood although no completed project levee was breached. In the lower sections of the river and the delta area a good many miles of levee remain to be completed either to full project grade or cross section. The reclamation board has lived continuously with the problems on the Sacramento River since it was organized in 1913, and the board supports the amount presented to you by the water resources board and believes it to be one of the most impotrant items under the Sacramento engineering district.

San Joaquin River, $500,900: The report on the San Joaquin River was authorized by Congress at the same time the report was authorized on the Sacramento River. Reports have been made on the San Joaquin and Congress has authorized one project, that on the lower San Joaquin River and tributaries, including

Tuolumne and Stanislaus Rivers. No appropriations have yet been made for this project. The $500,000 requested is for preparation of definite projects report and contract plans and specifications. The record-breaking floods of the past season did a great amount of damage in the San Joaquin areas from Stockton upstream for many miles. The intensification of agricultural and industrial development along the San Joaquin increases the demand for flood protection each year that passes, and also increases the cost of such protection to the United States and to the State. The encroachments of industrial and agricultural development upon the banks of the river and its tributaries increases greatly the cost of lands and rights-of-way and the areas from which levee construction material must necessarily be secured.

The other items in the Sacramento engineering district not specifically mentioned above, while not placed under the jurisdiction of my board by State laws, are nevertheless intimately connected with the projects I have just mentioned and have the wholehearted support of my board, and the landowners affected, in the request made to you by the State water resources board.

CONSTRUCTION FUNDS REQUESTED

BLACK BUTTE DAM

Mr. HARKEY. The various projects of immediate concern to the Reclamation Board comprise Black Butte on Stony Creek. That has been authorized, but no construction money has been appropriated.

We are requesting $500,000 to start construction on the project.

MERCED STREAM GROUP

The Merced Stream Group is under construction, and we ask for $910,000 for the continuation of construction already under way, but which is now at a standstill because of the lack of funds.

SACRAMENTO RIVER, OLD PROJECT

For the Sacramento River, old project, we are requesting $3,000,000. This project is a forerunner of all flood control in California.

Senator STENNIS. Which one is that, now?

Mr. HARKEY. That is the Sacramento River old project. That project is the forerunner of all flood control in California, and is the second, if not the first, flood-control project in the United States. It has reached a point where my board called upon the United States district engineer last year for a survey to determine exactly what remained to be done for the completion of the project. The survey has been completed, and the district engineer has submitted to my Board his conclusions on every unit of the levee in the originally adopted project.

At the upper end of the Old River project at what we call the Sacramento major and minor tributaries—that is really an extension of the Old River project—some work has been done on the tributaries, but no funds were included for them in the President's budget this year. We are recommending an appropriation of about $2,000,000 to carry on this very important part of the project.

MAINTENANCE TO BE CARRIED BY STATE OF CALIFORNIA

When finished, the State of California will assume the annual maintenance charges, estimated at $160,000.

During the past flood season the greatest flood of record occurred in the American River, which is the main tributary of the Sacramento

River, and which divides the city of Sacramento and North Sacramento. Great damage was done by this flood, although the completed project levee was not breached.

I thank you, gentlemen.

Chairman McKellar. Very well, sir.

Who is the next witness?

Mr. Griffith. The next witness is Mr. Harry E. Lloyd, engineer of the San Francisco Public Utilities Commission, who will speak on Cherry Valley, along with some other projects.

Chairman McKellar. All right, Mr. Lloyd.

STATEMENT OF HARRY E. LLOYD, ENGINEER OF WATER RESOURCES, PUBLIC UTILITIES COMMISSION OF THE CITY AND COUNTY OF SAN FRANCISCO, CALIF.

CHERRY VALLEY PROJECT, CALIFORNIA

Mr. Lloyd. Mr. Chairman and gentlemen of the committee, my name is Harry E. Lloyd. I am acting manager and chief engineer of water resources for the Puble Utilities Commission of the city and County of San Francisco. I have a formal statement that I would like to present for the record.

Chairman McKellar. It may be incorporated in the record.

(The statement referred to is as follows:)

STATEMENT OF H. E. LLOYD

My name is Harry E. Lloyd. I am engineer of water resources for the Public Utilities Commission of the city and county of San Francisco, Calif.

I am appearing before you in the interest of that commission and in support of the program developed by the Corps of Engineers, United States Army, for the control of floods in the lower San Joaquin Valley which originate on the Tuolumne River and, in particular, with regard to the construction of the Cherry Valley Dam in California.

As you gentlemen may know, the Tuolumne River is the principal source of domestic water for the city and county of San Francisco and is also the source of irrigation water for the 300,000 acres of farm lands within the confines of the Modesto and Turlock irrigation districts. These three agencies have spent close to $200,000,000 in the development of the conservation features of the waters of the Tuolumne River and will expend additional sums as required in the future.

In 1940 the Corps of Engineers proposed the construction of the Jacksonville Dam on the Tuolumne River as a flood-control project.

Negotiations between the Corps of Engineers and local interests resulted in the program recommended in House Document No. 2 of the Seventy-eighth Congress. This recommendation was accepted by the Congress and became part of Public Law 534 in December of 1944.

The law contemplates in lieu of the Jacksonville Dam, the use of existing and proposed reservoirs owned and operated by local interests for flood control as well as for conservation purposes. The flood control space is to be operated in accordance with rules and regulations prescribed by the Secretary of the Army.

By contract No. DA-04-167 Eng-38, certified September 26, 1949, between the United States of America and city and county of San Francisco, Turlock irrigation district and Modesto irrigation district, the rules and regulations prescribed by the Secretary of the Army were set forth and the monetary value, estimated at $12,000,000, was established.

Under the terms of the referenced contract, flood control was to be accomplished in three steps:

1. By December 1, 1949, operate existing facilities, owned by local interests, for flood control. These facilities have a storage capacity of 720,000 acre-feet.

2. By December 1, 1951, complete Cherry Valley Reservoir with a capacity of 260,000 acre-feet.

3. By December 1959, complete the new Don Pedro Reservoir with a capacity of 1,200,000 acre-feet.

The above schedules are contingent upon adequate financing, both Federal and local.

Payment by the Federal Government is to be made only for the flood control benefits received. I wish to make it very clear to you, gentlemen, that the Federal Government is not providing any money for conservation purposes.

By separate agreement between the Corps of Engineers and local interests, the benefits of flood control under step 1 have a value of $4,600,000, and the combined steps 1 and 2 have a value of $9,000,000. The remaining $3,000,000 is allocated to the construction of the new Don Pedro Dam.

Local interests since December 1, 1949, have been operating their facilities in the interest of flood control in accordance with their contract obligations. For the performance of this $4,600,000 service the Federal Government has appropriated to date $1,630,000, of which amount $1,515,000 has been turned over to the local interests. The value of this service as well as the necessity for step 2, namely, the building of Cherry Valley Dam, was demonstrated during the devastating floods of November and December of last year.

The existing structures captured the November flood on the Tuolumne River which reached a mean daily flow of 86,745 second-feet on November 19, during which a controlled release was maintained below Don Pedro. A second mean daily peak of 47,474 on December 4 was also controlled. However, by December 8, 1950, all of the Tuolumne River reservoirs were full, and an uncontrolled flow of 64,500 second-feet went down the river.

It was this last flow which flooded the city of Modesto and contributed to the breaking of the San Joaquin levee system below the Mossdale Bridge.

Studies developed by our engineers have demonstrated that had the Cherry Valley Dam been completed at that time, the maximum flow reaching the San Joaquin River from the Tuolumne River would not have exceeded 12,000 second-feet.

We have been before this committee for the last 3 years urging that substantial appropriations be made for the construction of the Cherry Valley Dam. The largest single appropriation we have received is $610,000. For a project which will cost in excess of $13,000,000, annual appropriations in such small amounts will cause excessive delays and increased costs.

This project differs from the others before you in that local interests are providing substantial sums of money in the conservation features of the project. All the money necessary for the construction of the Cherry Valley Dam in excess of the $9,000,000 to be furnished by the Federal Government under schedules 1 and 2 will be furnished by the city of San Francisco.

The city has available, by bond issue, $4,000,000 for this purpose. In addition, we have already spent from other city funds about $750,000 for engineering, spillway gates at O'Shaughnessy Dam, and access-road work.

Our contract with the Federal Government provides that city and Federal funds be spent on a prorated basis. The local interests have all of their necessary funds available and progress on the project depends on the size of Federal appropriations made.

This project also differs from others before you in that the city of San Francisco is the construction agency for the Cherry Valley Dam. Our program for the forthcoming fiscal year contemplated a Federal appropriation of $4,700,000.

However, I understand that the Bureau of the Budget recommended to the House Appropriations Committee an appropriation of $3,500,000 for this project. The House committee in turn reduced the recommendation to $3,300,000. We hope that your committee will follow the recommendations of the Bureau of the Budget and recommend the full $3,500,000.

All moneys previously appropriated are being expended for auxiliary works such as roads, tunnels, power lines, and construction camps.

The appropriation sought will be used to start work on the dam itself. This dam will take a minimum of scarce materials as it is to be built of earth and rock obtained locally.

We feel that the city of San Francisco and the Modesto and Turlock irrigation districts have performed all their obligations under the contract and have acted in good faith.

Gentlemen, I know that the Corps of Engineers consider that this project is good business for the Federal Government. The local interests are satisfied. There is equity there. Each party pays for what it gets and that to me is good business.

I appreciate the opportunity of appearing before your committee. I shall be happy to answer any questions the committee may have because it is of great importance that the requirement for an appropriation of $3,500,000 be clearly and objectively understood.

Thank you, gentlemen.

CONSTRUCTION CONTRACT

Mr. LLOYD. I would like to point out to the members of the committee the unique features of this project. It is being constructed under a signed contract between the Federal Government, through the Corps of Engineers, the city of San Francisco, and the Modesto and Turlock irrigation districts.

Under the terms of this contract, the city of San Francisco is the constructing agency and, as such, has responsibility of programing the work, in order to have an efficient construction program.

TOTAL ESTIMATED COST AND EXPENDITURES TO DATE

We have been before this committee now for 3 years and have asked for substantial appropriations, and to date have received a total of $1,630,000 in appropriations. The project itself will cost in the vicinity of $13,000,000.

NUMBER OF DAM UNITS

The Cherry project is but one of six dams, five of which are now existing on the Tuolumne River, with one on the Hetch Hetchy, two of which belong to the city and county of San Francisco, with three belonging to the Modesto and Turlock irrigation districts.

FLOOD CONTROL

Under the terms of the contract also, the local interests are providing at this time flood control, and our existing reservoirs, and will provide additional flood control in the Cherry Reservoir when it is completed. By separate understanding with the Corps of Engineers, the flood control now being accomplished in these reservoirs has a value of $4,700,000. The necessity for this additional unit on the river was clearly demonstrated last year when the floods of November and December, originating in the Tuolumne basin, hit the San Joaquin River. The local reservoirs took the peak off the first two floods, in which the discharge into the San Joaquin was somewhere in the vicinity of 80,000 cubic feet per second. However, when the third one came along, all of our local reservoirs were filled, and the uncontrolled flow of some 60,000 second-feet went into the Tuolumne and down into the San Joaquin. Two days after the discharge of the Tuolumne into the San Joaquin, the levees below Mossdale Bridge were breached.

Chairman MCKELLAR. We will have to recess for a few minutes. If you gentlemen will just wait for us a few moments, we will go up and make a quorum and vote, I believe.

Mr. LLOYD. All right, sir.

(A short recess was taken.)

Chairman MCKELLAR. The committee will come to order. Go ahead.

FLOOD DAMAGE TO MAIN ARTERY HIGHWAY

Mr. LLOYD. I was about to show you, Senator, some photographs of the type of flood that occurred. That is a main highway between the city of Stockton and the city of Tracy. That is a four-lane highway. One of them is completley submerged, as you can see.

Chairman MCKELLAR. Yes, sir.

Senator STENNIS. That is what you call a dual highway, is it not?

Mr. LLOYD. Yes, sir. The last one has been elevated.

I also neglected to point out on the map the location of this project. This is the Tuolumne River entering the San Joaquin. The San Joaquin River flows north. The various reservoirs that I have referred to, belonging to the local interests, exist there.

Senator STENNIS. Did the roadbed break here?

Mr. LLOYD. Yes, sir; that was a brand new bridge, just put in by the State highway department. It had not been in more than 2 or 3 months.

Now, going back to the financing of this project, as I mentioned earlier, it had to be financed jointly by the city of San Francisco and the Federal Government, on a proportional basis, the money to be spent concurrently, roughly on the basis of eight-twelfths of it on the part of the Federal Government and four-twelfths of it on the part of local interests.

Bearing in mind that the city of San Francisco and the two irrigation districts have already spent in excess of $200,000,000 on this river, controlling it for conservation features, the proportion that the Federal Government is to pay for flood control is comparatively minor.

PROGRAMING FUNDS FOR FISCAL YEAR 1952

In programing our work for this coming fiscal year, we have contemplated spending in the vicinity of $7,000,000, of which the Federal Government's share was about $4,700,000, which amount we asked the Corps of Engineers to recommend. However, when it finally came out of the Bureau of the Budget, it came out at $3,500,000. That was reduced to $3,300,000 in the House committee.

Now, that is not a very great difference but, nevertheless, it does hinder us in awarding contracts. We have to award a contract, not on a continuing basis as the Corps of Engineers does, but we have, to have, as we express it, all the money in the box before we can award a contract. So we would like, if you gentlemen see it that way, to have that $200,000 restored in the appropriation.

Chairman MCKELLAR. All right, sir; we are very much obliged to you.

Will you call the next witness?

Mr. GRIFFITH. Mr. Milton Kidd, director of the Modesto irrigation district, is the next witness.

Senator STENNIS. While we are waiting for Mr. Kidd to come up to the witness table, as I understand it, this Sacramento River Valley project is the oldest flood-control project in the United States, is it not, Mr. Chairman? Is not that the first one authorized?

Chairman MCKELLAR. It is one of the first.

Senator KNOWLAND. It is an early one.

Mr. GRIFFITH. It is a question as between the Mississippi and the Sacramento.

Chairman McKellar. They were both initiated at about the same time.

Colonel Potter. The lower Mississippi and the Sacramento are the oldest project of flood control.

STATEMENT OF MILTON L. KIDD, DIRECTOR OF THE MODESTO IRRIGATION DISTRICT, MODESTO, CALIF.

CHERRY VALLEY PROJECT, LOWER SAN JOAQUIN RIVER, CALIF.

Mr. Kidd. Mr. Chairman and members of the committee, I have a formal statement here which I would like to file with the committee.

Chairman McKellar. That will be done.

(The statement referred to is as follows:)

STATEMENT OF MILTON L. KIDD

My name is Milton Kidd. I am a director of the Modesto irrigation district in Modesto, Calif. I represent that organization here today and am here in behalf of flood control on the Tuolumne River.

In 1944 the Seventy-eighth Congress, second session, adopted Public Law No. 534, authorizing flood control upon the lower San Joaquin River and its tributaries, including the Tuolumne River.

Since that time contracts have been entered into between the Corps of Engineers, United States Army, the city and county of San Francisco, the Turlock irrigation district, and the Modesto irrigation district to operate the dams belonging to the local interests for partial flood control and to construct additional units to give complete control of the river.

The serious floods which occurred in California during the past winter are generally known to all, and we had our share. The San Joaquin River inundated thousands of acres of land and did tremendous damage. Its tributary, the Tuolumne River, contributed over 60,000 cubic feet of water per second to the flood. In addition, it flooded homes and farms forcing people to evacuate, livestock was stranded and other damage was done in the vicinity of Modesto, Empire, and Waterford covering a distance of about 40 miles along the river.

Much greater losses would have occurred had not the local interests operated their reservoirs in accordance with the previously mentioned contracts, for flood control. In 2 days during November, these reservoirs impounded 300,000 acre-feet of water thereby maintaining a flow of less than 30,000 second-feet in the river.

The floods repeated themselves too rapidly, however, for the amount of reservoir storage space available, and in December a flow of approximately 60,000 second-feet passed down the Tuolumne River creating huge damage. Had Cherry Valley Dam been complete this would have been materially reduced, if not totally eliminated.

The local interests, namely the city and county of San Francisco, the Turlock irrigation district, and the Modesto irrigation district, are cooperating 100 percent with the Corps of Engineers to obtain flood control at the lowest cost to the Federal Government.

The city and county of San Francisco has installed spillway gates on O'Shaunessy Dam and voted $4,000,000 in bonds to complete their part of the program and the irrigation districts are operating their reservoirs for partial flood control. This year's budget calls for an appropriation of $3,500,000 by the Federal Government, the House of Representatives have approved $3,300,000. We would like to see this restored to the budget figure, so that the project may proceed with maximum speed.

In closing, I wish to thank you gentlemen for the consideration which you are giving this important matter.

TUOLUMNE RIVER, CALIF.

Mr. Kidd. I am director of the Modesto irrigation district and conservation project on the Tuolumne River, a project that has not, to date, anywhere near been able to control the floods there.

During this past season we had a very severe flood situation which did several things that are important to the country.

One of them is that our town, which is fed, shall I say, by the rural area, the farming area, was flooded to a substantial degree.

Senator STENNIS. Mr. Chairman, if I may interrupt, I would like to follow with the chart here. Which one are you referring to now?

Mr. KIDD. We are talking about Cherry Valley, on the Tuolumne River.

Senator STENNIS. Is this in the project?

Senator KNOWLAND. Yes, sir.

Senator STENNIS. All right. Excuse me.

HOUSE ACTION ON CHERRY VALLEY PROJECT

Chairman MCKELLAR. It is just a question of the difference in the amount that you are asking for, that is, the $200,000 more than the House allowed?

Mr. KIDD. That is the matter of the appropriation; that is right.

The President's budget, I understand, was $3,500,000, and the House reduced that by $200,000, which does make it very inconvenient.

Now, last fall much of our farming land was flooded. The farmers who have put their money into the Tuolumne River project are already giving flood-control benefits normally provided the Army engineers.

Last year, because we weren't adequately taken care of, the people who wanted to come from San Francisco to our town, 90 miles away, were prevented from doing so because of the fact that one of our great highways was flooded in wide sections. One of our farms down there had a total of 10,000 turkeys drowned in the flood area during that season.

The local interests have done their part. They will continue to do their part. We just ask that the work may be carried on as rapidly as possible, so that we can get the complete protection that I am sure the members of the committee and the Government want us to have.

I believe that that is all I have to say.

Chairman MCKELLAR. All right, sir; we are very much obliged to you.

Will you call the next witness?

Mr. GRIFFITH. Our next witness is Mr. Crowell, president of the Turlock irrigation district, who will discuss the same matter.

STATEMENT OF ABNER M. CROWELL, PRESIDENT, TURLOCK IRRIGATION DISTRICT, CALIFORNIA

CHERRY VALLEY PROJECT, TUOLUMNE RIVER, CALIF.

Mr. CROWELL. Mr. Chairman and members of the committee, my name is Abner M. Crowell, and I am president of the Turlock irrigation district.

Mr. Chairman, I have a statement here which, with your permission, I will file with the committee.

Chairman MCKELLAR. We will insert it in the record at this point.

(The statement referred to is as follows:)

FLOOD CONTROL ON THE TUOLOMNE RIVER, CALIF.

My name is Abner Crowell and I am president of the board of directors of the Turlock irrigation district, California.

I am here to urge that an adequate appropriation be allocated to the Cherry Valley Reservoir on the Tuolumne River to insure the completion of the project as close as possible to the date set in our contract dated August 1949 with the United States of America.

Under the contract the irrigation districts and the city and county of San Francisco have agreed to provide flood control for the lower San Joaquin River Basin, Calif., by the operation of their five existing reservoirs, with a combined storage capacity of 738,000 acre-feet, and by the operation of the proposed reservoirs, Cherry Valley and New Don Pedro. The flood-control benefits to the Government have been tentatively estimated at $12,000,000. The irrigation districts and the city and county of San Francisco have operated their reservoirs to the fullest extent for flood control since August 1949. During the recent floods of November and December 1950, our flood-control operations materially reduced flood damage in the lower San Joaquin River Basin.

The plan we have adopted by which the Government pays only for the flood-control service rendered by the districts and the city and county of San Francisco has considerable merit. Local interests pay for the entire project except that cost allocated to flood control.

The use of our storage reservoirs for flood control prior to the completion of Cherry Valley Reservoir has imposed a burden of expense and risk upon us for which no compensating returns will be had until Cherry Valley Reservoir is completed and in operation.

LOCAL CONTRIBUTION

Mr. CROWELL. Gentlemen, I would like to call to your attention once again the contract signed by the Turlock irrigation district, the Modesta irrigation district, and the city and county of San Francisco, with the Government.

Under this contract, the Government pays for only actual flood-control service, the most economical method of obtaining flood control.

As Mr. Harry Lloyd stated, local interests to date have spent, since 1887, some $200,000,000 of their own money, which we were glad to do for our own benefit. Since 1949, we have operated our facilities to the fullest extent for flood control.

Therefore, of course, it is a matter of deep concern to us that this Cherry Valley Dam be completed at the soonest possible date because we have been operating our facilities at considerable risk and expense to ourselves. Our benefit will come after the completion of Cherry Valley Dam and one more project on the river.

So I am here representing my district for that purpose. Our district has 185,000 acres and some 6,300 irrigators. We in our district are not materially hurt by floods. The Modesto district is hurt more than we are, and the lower San Joaquin Valley, of course, a great deal. Our main interest is for farming and our farm income. We are happy to practice flood control, as we have shown, and we are very anxious for an appropriation sufficient to complete Cherry Valley Dam and gain a little more storage.

Thank you, gentlemen.

Chairman MCKELLAR. All right, sir. We are much obliged to you.

Will you call the next witness?

Mr. GRIFFITH. The next witness is Mr. Francis V. Keesling, Jr., of the city of San Francisco.

STATEMENT OF FRANCIS V. KEESLING, JR., SAN FRANCISCO, CALIF.

CHERRY VALLEY PROJECT, TUOLUMNE RIVER, CALIF.

Mr. KEESLING. Mr. Chairman and gentlemen of the committee, my name is Francis V. Keesling, Jr., representing the city and county of San Francisco, and here in support of the Cherry Valley project.

These other gentlemen have covered the subject very thoroughly in their statements, and merely in the interests of conserving time, I will support what they have had to say, and urge you, gentlemen, to carry out the appropriation in an increased amount, as recommended by the Bureau of the Budget.

Thank you.

Chairman MCKELLAR. You want us to restore the $200,000?

Mr. KEESLING. Yes, sir. Thank you, Mr. Chairman.

Chairman MCKELLAR. All right. Will you call the next witness?

Mr. GRIFFITH. Mr. Chairman, I would like to call Mr. H. E. Hedger, chief engineer of the Los Angeles County flood-control district.

LOS ANGELES RIVER FLOOD-CONTROL PROJECT

STATEMENT OF H. E. HEDGER, CHIEF ENGINEER, LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

WHITTIER NARROWS FLOOD-CONTROL BASIN AND SAN ANTONIO FLOOD-CONTROL BASIN AND CHANNEL

Mr. HEDGER. My name is H. E. Hedger and I am chief engineer of the Los Angeles County flood-control district. I have been authorized by the board of supervisors of the county of Los Angeles, and by the county flood-control district to present the needs of our area to your committee.

Our area is located to the south of the large map on display and, therefore, I have submitted for your assistance in following my testimony, a small map of the Los Angeles County flood-control district which each of you may have.

I also have a formal statement which I would like to submit for the record, Mr. Chairman.

Senator STENNIS. I take it Los Angeles County does not appear on the large map, but is rather further down?

Senator KNOWLAND. This map depicts the Central Valley, down to the end of the San Joaquin River.

Senator STENNIS. I see.

(The statement referred to is as follows:)

STATEMENT OF H. E. HEDGER, CHIEF ENGINEER, LOS ANGELES COUNTY FLOOD-CONTROL DISTRICT, CALIFORNIA

Mr. Chairman and gentlemen, I have been authorized by the board of supervisors of the Los Angeles County flood-control district in California to appear before your committee to discuss the flood-control needs of the district for the fiscal year 1952.

I have had the pleasure of appearing before you on several previous occasions, and each time I have stressed the danger to the metropolitan area of Los Angeles due to uncontrolled floods. No area of comparable size in the United States has a greater potential loss of life and property damage. This condition is due to the following factors:

The vast majority of the 4.2 million people of Los Angeles County work and reside on a narrow coastal plain approximately 25 miles wide and 45 miles long, extending from the ocean to the foot of the San Gabriel Mountains.

The San Gabriel Mountains rise to a maximum height of 10,000 feet within 45 miles of the ocean, and effectively control the meteorology and hydrology of the coastal plain.

Warm moist air driving inland from the Pacific Ocean is lifted by the slope of the mountains. The rapid cooling of the rising air mass looses the moisture on the seaward slopes and has resulted in rainfall intensity of as much as 1 inch per minute in 1926, and 26.12 inches in 24 hours in 1943.

This heavy rainfall pours down the steep mountainside to the populated coastal plain carrying with it large quantities of rocks, boulders, and other debris.

The natural channels of the coastal plain can carry only a fraction of these floods, resulting in vast areas of flooded land. On March 2, 1938, such a storm cost the lives of 49 people and over 40 millions of dollars in property damage. Since that time our population has increased from 2,450,000 to 4,220,000, thus greatly increasing the hazard from a similar storm, both as to possible loss of life and property damage.

Our district was organized in 1915 and has spent nearly $100,000,000 since that time to halt the ravages of these uncontrolled waters. In 1936 the United States Government came to our aid, and has appropriated $114,000,000 for the purpose, but only partial control has been achieved. The balance of the work is estimated to cost nearly $224,000,000. Our district is willing and able to provide its share of the cost of such work, as appropriations are made by Congress, as has been demonstrated every year since 1936.

We realize that your committee must meet the demands for appropriations for national defense, and we have analyzed our requests in terms of their importance to the national defense effort.

There can be no question as to the importance to the Nation as a whole of the national defense activities under way in the Los Angeles area. The 1947 United States Census of Manufacturers report found that in national rank of production the Los Angeles industrial area was first in the manufacture of aircraft and aircraft parts, pumps and compressors, refrigerator equipment and machinery, heating and plumbing equipment, canned seafood, and motion pictures; second in automobile assembly, automobile tire and tube production, storage batteries, oil field machinery, tool press and blown glass, and concrete and plastic products, and third in petroleum refinery, ceramic products, nonferrous foundries, tractors and farm machinery, construction and mining machinery, conveyor equipment, miscellaneous fabricated textiles, and miscellaneous wood products. It ranked fourth in 16 additional industries. The total annual value added by manufacturing in this area was reported as over $2 billion for that year. Since 1947 the industrial growth of this area has skyrocketed and the protection of vital defense equipment, such as aircraft, rubber tires, ceramic and glass products for electronic and other use, storage batteries, tractors and farm machinery, etc., has greatly expanded.

Of the flood-control projects listed by Mr. C. A. Griffith, chairman of the State water resources board, as urgently needed in California, the following are located within or adjacent to Los Angeles County:

Los Angeles County drainage area project		$20,250,000
Los Angeles River:		
Stewart and Gray Rd. to Pacific Electric Ry. bridge	$4,750,000	
Pacific Electric Ry. to Atlantic Blvd	3,500,000	
Los Angeles River channel, Fulton Ave. to Sepulveda Blvd	2,000,000	
Rio Hondo, Los Angeles River to Florence Ave	4,500,000	
Tujunga Wash, Beachy Ave. to Hansen Dam	1,500,000	
Pacoima Wash, Tujunga Wash to Arleta St	2,500,000	
Lopez flood-control basin, acquisition of lands and construction	1,500,000	
Whittier Narrows Reservoir, complete construction of spillway and east wing; initiate construction of outlet structure and westerly wing and initiate construction of central embankment; also continue acquisition of right-of-way, relocate utilities, reconstruct highways and highway bridges, and initiate construction of approach channels		10,000,000
San Antonio Dam, acquire right-of-way and continue construction of dam, embankment, and outlet works		2,250,000
San Antonio channel, acquisition of right-of-way and relocation of utilities		500,000
Total		33,000,000

Of these items, all but the Los Angeles River improvement from Pacific Electric Railway to Atlantic Boulevard, the Pacoima Wash, the Lopez flood-control basin, and the San Antonio channel are included in part or in whole in the President's budget recommendations.

Of the above projects, Whittier Narrows Reservoir, the Los Angeles River improvements between Stewart and Gray Road and Atlantic Boulevard, and the Rio Hondo improvement are now being constructed for the protection of the vital industrial and shipping center located at and back of the Los Angeles and Long Beach Harbor area. Not only are the harbor facilities, such as docks, anchorages and warehouses, storage areas, access roads, railroad connections, communication and power systems, etc., dependent upon the flood-control improvements for protection from flood damage, but also the naval and military establishments at the harbor. There are also aircraft manufacturing and widespread petroleum industries, food-packing establishments, motor-vehicle assembly plants, and power-generator plants in the flood-hazard area which will be protected by these flood-control structures, as well as thousands of homes of defense workers in these industries. The naval air base at Los Alamitos and the naval ammunition and net depot near Seal Beach are also affected. Hindrance or damage to national defense activities, even for but a short time during and after a major flood, would be a vital blow to the Nation's welfare.

The improvement of the Los Angeles River from Fulton Avenue to Sepulveda Boulevard and of Tujunga Wash will complete the improvement of these channels downstream from Sepulveda Dam and Hansen Dam, respectively, and thereby consummate several years of extensive work on these streams. Their completion will also provide full flood protection to the vital aircraft industries in San Fernando Valley, which during World War II were hampered by severed communications due to floods on these streams.

The construction of flood-control works on Pacoima Wash, a branch of the Los Angeles River, which includes Lopez flood-control basin, is of great importance to defense activities in the central region of San Fernando Valley, particularly in the vicinity of Van Nuys. There are a score or more of important manufacturing companies located in the flood zone of Pacoima Wash as it exists today, including the Chevrolet auto assembly plant, Fisher body plant, various aircraft parts, tool and die shops, and manufacturers of radio, television, and electronics equipment, auto pumps and automobile parts, ram-jet engines, and other defense equipment. In addition, practically the entire residential and industrial areas north of and in Van Nuys, in which 37,000 people reside, will remain threatened by any major flood until this improvement is completed.

I will not dwell on the importance of completion of the San Antonio project to national defense, for the reason that it was closely examined in this connection but a few months ago and thereupon certified by the President of the United States as necessary to national defense. The urgency of completing this project is therefore well established.

We believe that the evidence is convincing that each of the projects so vitally needed for flood protection in Los Angeles County is also vitally needed for protection of the national defense effort and, therefore, of importance to the Nation as a whole. The need for the earliest possible completion of every one of these projects is urgent. The Los Angeles County flood-control district stands ready to meet its obligations as to construction of these projects and, insofar as military requirements will permit, you are urged to appropriate funds for this construction during the fiscal year 1952.

In closing, there is one situation which I wish to emphasize above all others. Upon recommendation of the House Appropriations Subcommittee on Civil Functions of the Army, the House of Representatives has approved an appropriation of but $5,100,000 for channel improvements in Los Angeles County, which represents a cut of approximately $1 million below the President's budget. These funds are all necessary to complete improvements now under contract, and unless thus cut is restored it will be necessary to shut down work now actually under way. This may readily prove disastrous. For example, on the lower Los Angeles and the Rio Hondo the contractors have almost completely removed flood-protection works constructed by our flood-control district which afforded a fair degree of flood protection. This was done on the promise that the new improvement would be completed prior to the next rainy season. Cessation of construction on these projects will leave large areas along these streams, which had previously enjoyed a fair degree of flood protection, now entirely unprotected and vulnerable to even moderate flood flows. Hazard to life and property in

these areas will be increased many times as a direct result of Federal activities unless the contracts now underway are completed this year.

Gentlemen, we are very seriously alarmed over the cut made by the House appropriations for Los Angeles County and plead with you to restore this cut as your minimum and first consideration in order that we need not be faced by a flood situation of major proportions which will have been created by direct activities of public agencies and for which public agencies may be held liable.

Thank you.

THREE FLOOD-CONTROL PROJECTS IN LOS ANGELES COUNTY

Mr. HEDGER. At this point, Mr. Chairman, I would like to add that the position of Los Angeles County at the end of the group of witnesses for California and the fact that we have but one witness is by no means indicative of a lack of a need for appropriations for flood control in our county.

First, I would like to say that the map before you shows three projects of great interest to the county of Los Angeles. One is the Whittier Narrows flood-control basin, which appears in the center of the map as a large yellow area.

The second is on the right-hand side of the map, about in the center, and is known as the San Antonio flood-control dam.

The third includes everything else in yellow on the map, and is known as the Los Angeles County drainage area project, one of the largest projects that has been authorized by Congress, as your chart will show, I believe.

The legend in the lower right-hand corner of the map will show that the areas colored in red and outlined in white are projects finished or yet to be accomplished by the Los Angeles flood-control district with its own funds. We do the same kind of work as the Corps of Engineers, however, somewhat lesser in degree.

The areas colored in blue and yellow represent, respectively, the works completed by the Corps of Engineers under the programs authorized by Congress, and other works yet to be done under those programs.

AMOUNT NEEDED TO COMPLETE PROJECT

The workse yet to be done total about $224,000,000. Only about 32 percent of the Los Angeles County drainage area project has been completed, as of the present time, although it has been under way since 1936.

Senator STENNIS. How much did you say you had spent from local funds?

LOCAL CONTRIBUTION

Mr. HEDGER. From local funds we have expended, to date, about $100,000,000 of flood-control district funds. That does not take into account the cities nor the county of Los Angeles. But the Los Angeles County flood-control district has itself expended about $100,000,000 on the works shown in red on the map. Those are flood-control projects and conservation projects.

Senator STENNIS. Then the city has put money into the same projects or into different projects?

Mr. HEDGER. They have, but on flood-control projects, of a smaller degree, such as storm drainage projects.

The county of Los Angeles has done much of the same thing, as have some of the other cities. There are 45 cities in the county of Los Angeles, as indicated on the map. The population at the present time is some 4½ million people.

Senator ECTON. Just in Los Angeles County?

Mr. HEDGER. Yes, sir; in Los Angeles County, in the area that is shown on this map, sir.

FLOOD DANGERS

Now, the formal statement that I have submitted brings out in some detail the fact that Los Angeles County, in addition to being well known for its motion-picture industry and other things, is also the home of one of the greatest flood hazards in the country. That is due primarily to the topography and the meteorological features of the area. I won't go into detail, but it does represent a tremendous flood hazard.

In the flood of 1938, a flood lasting only a few hours, Los Angeles County lost over 45 lives, and over $40,000,000 in losses were suffered as a result of the flood.

The Los Angeles County flood-control district has done everything within its power to meet the needs for flood control, having raised and spent some $100,000,000 of its own funds. Each year we continue to raise from $6,000,000 to $10,000,000 to continue that work.

MAINTENANCE OF PROJECTS BY LOCAL GOVERMENT

We maintain the works that the Corps of Engineers do. We meet the responsibilities imposed by Congress in acquiring lands and reconstructing bridges, and we also perform considerable construction work on projects that are not included in the congressional program.

My statement also brings out the fact that there is much flood-control work vitally needed to protect the defense industries in the county.

Los Angeles, as is pointed out in the statement, leads in many of the national defense activities of the United States. It is the leading area for aircraft manufacture, and is most important with respect to many other industries as well. That work cannot continue in the event of floods, without serious damage or detriment, unless protection is afforded both to the industries themselves, and to the means of access, both highway and railroad.

I might add that Los Angeles County has for years been the leading agricultural county, something that is not generally recognized in the United States.

Senator STENNIS. What is the area of your county?

Mr. HEDGER. Roughly about 4,000 square miles, sir. It has an interesting feature, in that the highest point in the county is some 10,000 feet in elevation and yet is only 50 miles or less from the ocean. So it is a very steep, rugged terrain, as is obvious.

AMOUNT REQUESTED FOR THREE PROJECTS

The chairman of the State Water Resources Board has listed the needs, in which we fully concur, of the county for funds, with which

needed flood-control work can be carried on next year. They total $33,000,000 for the three projects that I mentioned.

If times were normal, that would be the amount that we would feel should be appropriated to carry on the work in an orderly and needed way. Times are not normal. The defense needs are great, and we felt that the budget amounts submitted by the President which had to recognize that situation, presented met only the absolutely minimum needs for our three flood-control projects.

The President recommended for the Los Angeles County drainage area project $6,085,000; for the Whittier Narrows flood-control basin, $5,000,000; and for the San Antonio flood-control basin, $1,000,000.

HOUSE ACTION

Unfortunately, the House of Representatives in passing the appropriation bill, reduced those amounts, as they did in areas elsewhere in the country.

The amount approved in the House bill for the Los Angeles County drainage area project was $5,100,000; for the Whittier Narrows flood-control basin, was $4,500,000; and for the San Antonio flood-control basin was $500,000. We feel that the reductions made on these projects do not fully recognize the situation there, represent a grave mistake and are, in fact, untenable.

Our reason is this: In the Los Angeles County drainage area, all of the work to which the funds that we are considering in the 1952 budget applies, is under contract, and in some instances is well along.

CHANNEL AND LEVEE IMPROVEMENTS

It is necessary in performing the channel improvements, of course, to clear the path for the improvements. That involves the removal of protection work that has heretofore existed along these channels.

In one instance, at the junction of the Los Angeles River and the Rio Hondo, which will appear in the center of the map, below the Whittier Narrows Basin, there are 4.6 miles of levees along these channels which are being reconstructed. This is necessary because the levees have been subjected to undermining scour and must be replaced with a hard bottom channel to resist that scour.

In the process of that work all of the rock revetment from those 4.6 miles of levees has been removed before the new channel could be started.

EFFECT OF HOUSE CUT

Now, under the budget program it would have been possible to have completed the contract work before next winter's rains and replace the original revetment with new channel, which would have fully protected it from hazard. But, with the reduction made by the House in the amount for the Los Angeles County drainage area project from $6,085,000 to $5,100,000, there will not be enough money to do that, and the work will have to stop short of completion.

Such a position is absolutely untenable, in our belief. It would expose a vital area in the heart of Los Angeles County to a flood hazard, with the coming of winter, to a far greater degree than has

existed in the past, because there has been considerable flood protection along the banks, consisting of levees, heretofore.

Nor, if it is necessary to cancel these contracts without their being completed, because of the lack of funds, the people residing nearby are deprived of the protection that they did have and will be exposed, without any protection at all, to the ravages of the river for the coming winter, the winter months being the time that we experience our floods in southern California.

So we feel that there is just no question in the case of the Los Angeles County drainage area project but that there must be a full restoration of the funds that were originally included in the budget or the Federal Government itself will be responsible for a situation which, as we say, is untenable, this winter.

Chairman McKellar. Let me ask you a question, if you don't mind.

Mr. Hedger. Certainly, sir.

1951 APPROPRIATION

Chairman McKellar. Last year there was appropriated $6,575,000 for this project.

Mr. Hedger. Yes, sir.

Chairman McKellar. The amount requested was $10,395,000 for fiscal year 1952, and the budget estimate is $6,085,000, which was a substantial decrease. The House allowed $5,100,000.

Mr. Hedger. Yes, sir.

Chairman McKellar. Now, I see that the amount allowed by the House is a little lower than it was last year. Would it be possible, do you think, to continue that work, and carry it on with expedition, with the amount that you had last year?

Mr. Hedger. Yes, sir. I believe that if the amount recommended in the budget this year were provided it would permit completion of the existing contracts to the point that the adjacent areas could be safely protected this winter. But I also believe firmly that if the cut made by the House is maintained it will not be possible to complete those contracts, and as a result, it will be necessary to leave exposed to the gravest flood hazard this winter some sections of the river channel on which contract work has already been started.

Chairman McKellar. All right, sir. Go ahead.

SITUATION AT WHITTIER NARROWS FLOOD-CONTROL BASIN

Mr. Hedger. In the case of the Whittier Narrows flood-control basin the situation is also grave in some respects. If you will refer back to the map again, Whittier Narrows flood-control basin is in the center of the map, approximately, and is indicated as a large yellow area.

To the north and east of the Whittier Narrows Basin there is a large blue area designated as the Santa Fe Basin. That is a flood-control reservoir that was built back during the war days as a part of the Federal program. It has been quite effective in assisting in flood control, in controlling floodwaters. However, it is so located that the discharge from the Santa Fe Basin necessarily travels down the San Gabriel River, which, you will note, runs between the Santa Fe Basin and the Whittier Narrows.

Formerly, before the Santa Fe Dam was built, the discharge from our San Gabriel Mountains was divided between the San Gabriel River and the Rio Hondo, which also runs between the Santa Fe Basin and the Whittier Narrows.

In that way it was possible to equalize the flows during a large flood and minimize the damage by having it go down by both channels. It is not longer possible—and it hasn't been possible—to do that, since 1943. As a consequence, there is a hazard along the entire San Gabriel River to the ocean, down to what is called San Pedro Bay, an area which in the last 3 years has seen probably the greatest development of any section that I know of in the United States.

For instance, there is one developer in the area affected by this flood hazard until Whittier Narrows Dam is completed, who has built approximately 15,000 homes in that section in a year's time—that is just one housing development in a small area, but one that would house some 50,000 new inhabitants. It is an area that is dependent upon completion of Whittier Narrows Dam for flood protection.

Senator KNOWLAND. And that protection would run all the way down to Long Beach.

Mr. HEDGER. That protection would go all the way down to the ocean, including Long Beach.

WHITTIER NARROWS DAM, CALIF.

Now, the thing we say is this: Whittier Narrows Dam is needed as soon as it can be completed. Although it was started over a year ago, only about 32 percent of the cost of the project has been appropriated to date, and something less than 20 percent of the construction has been placed under way. Unless more money is appropriated this year, in fiscal year 1952, there can be no new construction started on Whittier Narrows Dam in that year.

The funds that are included in the House appropriations would be used entirely in completing construction contracts now under way on the spillway, the east wing of the dam, on the relocation of utilities, and on the acquisition of lands, and would permit no new construction work, which would mean at least a year's deferment of completion and utilization of the dam.

The last of the three projects is the San Antonio flood-control basin.

Senator KNOWLAND. Would you not say, if I may just interrupt a moment, Mr. Hedger, that there would be quite a calculated risk in not getting the Whittier Narrows Dam completed? Is not that at least one of the major keys to the flood-control problem in this area?

Mr. HEDGER. It is the major key of the works remaining to be done, Senator, and the importance of its early completion is increasing rapidly because of the development of the area that is going on downstream. People still come in to this area. Houses are still being built, and there is no place for them to build any more except in areas such as these. The flood-safe areas have been occupied years ago. So the importance of that dam as a key structure has increased very materially since it was first authorized by the Congress, and placed under construction.

Senator KNOWLAND. In the event of a bad flood in that area, you would certainly have great damage to the defense industries in Los Angeles?

Mr. HEDGER. Yes, sir. My statement will support that. My formal statement lists a number of the important aircraft and other defense activities that are under way there. That certainly is very true, Senator.

AMOUNT NEEDED FOR WHITTIER NARROWS DAM

Senator KNOWLAND. Colonel Potter, I would like at this time to ask what would be required, in order to have construction actually move ahead on this dam, Whittier Narrows Dam?

Colonel POTTER. In order to make it feasible to enter into a continuing contract for the construction of the main embankment, this year's appropriation would have to be in the neighborhood of about $8,000,000, Senator.

Chairman MCKELLAR. Are there any questions, gentlemen?

Senator STENNIS. There was only $5,000,000 in the budget though, on Whittier Narrows Dam.

Colonel POTTER. $6,085,000, sir.

Senator STENNIS. I see that.

Mr. HEDGER. May I proceed, sir?

Chairman MCKELLAR. Go ahead.,

SAN ANTONIO FLOOD-CONTROL BASIN, CALIFORNIA

Mr. HEDGER. The third project again is the San Antonio flood-control basin. I do not wish to take any more of the time of the committee on that project, because it was examined by the Corps of Engineers under Presidential directive, a year or so ago, and found essential to the national defense. I feel that that in itself is sufficient justification for pushing that project ahead, as it should be.

I wish to close by stating that our flood-control district is now, and has been since we joined in work with the Federal Government in 1936, ready to assume its share of the cost. We have not as yet missed being ready with funds, and with acquisition of rights-of-way, at the time Federal funds become available. I believe Colonel Potter will agree with that. I believe we have been ready at any time that Congress has appropriated funds for a project or a unit of our project in southern California.

We stand ready to continue that record.

In view of the conditions that have been pointed out, particularly this wide-open condition along our river channels, that can only be corrected by restoring the funds that were originally included in the budget, and I sincerely hope that your committee will see fit to restore those funds.

Thank you very much indeed, gentlemen.

Chairman MCKELLAR. Thank you, sir.

STATE OF CALIFORNIA EXPENDITURES ON FLOOD CONTROL

Mr. GRIFFITH. Mr. Chairman, that is the last of our witnesses, except that I would like to call on Mr. Leedon for a moment.

Before doing that I would just like to give a few figures which I think will be interesting to you.

The State of California, without exaggeration, has done a great job for itself with its own funds. You might be interested in knowing that we have spent, the State and local interests, in excess of $300,000,000 on flood control alone.

The metropolitan water district, together with other interests in southern California, have obligated themselves for $500,000,000 for the Colorado River and other works.

In addition to that, the irrigation districts throughout the State have spent $350,000,000 on water conservation works.

Senator ECTON. Has that been done by means of a State-wide tax levy?

Mr. GRIFFITH. Senator, I am just bringing together the amounts of money that have been expended by the State and local interests. Of course, it is all tax money, as far as that goes.

The City of San Francisco has spent on Hetch Hetchy alone, which is for municipal water and flood control, $140,000,000 and the east bay district $60,000,000.

You have a total of $1,350,000,000 that the cities, counties, political subdivisions and the State of California have spent, a rather impressive fund.

We never have come to Congress with any sense of apology, because we have thought that we have pretty much carried our own load.

Now, the State Legislature of California has set aside a fund of $25,000,000, a flood-control fund, which is in the hands of the board that I represent, to take care of any obligations, so far as easements and rights-of-way are concerned, in connection with Federal projects. So we are doing our part, and we think we are doing it in a very creditable manner, all the way through.

Now, I would like, Mr. Chairman, on behalf of Congressman Sheppard, who was expected to be here, but who is detained in the Armed Services Subcommittee, to present two statements on his behalf, from the county of San Bernardino, with regard to the Santa Ana River and tributaries, and on the San Antonio Dam and Channel project.

Chairman MCKELLAR. They may be inserted in the record at this point.

(The statements referrred to are as follows:)

DEVIL CREEK DIVERSION, EAST TWIN CREEK CHANNEL, WARM CREEK CHANNEL, AND LYTLE CREEK LEVEE UNITS OF THE SANTA ANA RIVER AND TRIBUTARIES, CALIFORNIA, PROJECT

The board of supervisors of the San Bernardino County flood-control district in California wishes to respectfully but urgently request appropriation of at least $500,000 in funds with which to insure the beginning of work on the Devil Creek, East Twin Creek, Warm Creek, and Lytle Creek units of the project known as Santa Ana River and tributaries, California, as reported favorably by the Corps of Engineers in House Document No. 135, Eighty-first Congress, first session. Hearings were had on this project May 16 to June 2, 1949, by the Committee on Public Works of the House of Representatives, Eighty-first Congress, as shown in No. 81–5, pages 695 et seq. The project was authorized by H. R. 5472, Eighty-first Congress, first session.

The project includes four major units, two in Riverside County and two in San Bernardino County. They are each important and necessary and should be completed at the earliest possible time.

In our opinion, however, that one which has for its object the control of Warm Creek Channel, East Twin Creek Channel, Devil Creek diversion and Lytle Creek levee—all for the protection of the city of San Bernardino and industries and facilities very definitely of extreme importance in the war effort—

from floods reaching the area from the north and east—is of vital and immediate importance.

The seriousness of the flood hazard is caused by the fact that the city of San Bernardino and its environs is located at the foot of a high range of mountains. These mountains rise from valley elevation of from 1,000 to 1,600 feet to an elevation of from 5,000 to 12,000 feet. Because of topographic features, these mountains being approximately parallel with the Pacific Ocean and about 50 miles inland thus constituting a barrier for moisture-laden clouds being transported from the ocean toward the desert; the slopes of these mountains are subject to an intense rainfall. Over a 70-year period, the tops of the mountains have averaged about 45 inches of rainfall per year while at the base the average has been about 16 inches per year.

The canyons along the front face of the mountains then carry a great amount of floodwater and debris which debauches upon the settled and improved area on the valley floor. These floods cause great damage to valuable agricultural areas, to residential, business, and industrial properties, to railroad and highway facilities, to essential irrigation and domestic water supply systems, to public utilities including transcontinental communication cables, oil and gas mains, and electrical transmission lines, together with all facilities available to a very rapidly developed industrial, business and residential area.

Certain of these communication facilities and gas and electrical installations are transcontinental in scope and are absolutely essential to the industrial economy of the Los Angeles metropolitan area.

Norton Air Base, which was extensively used as a vital unit through World War II, is rapidly expanding and is assuming a very important role in the present national emergency effort. This base, together with railroad and highway connections, could be seriously damaged by floods escaping from these channels.

Since the survey and report by the Corps of Engineers, large installations housing a National Guard armory, a Naval Reserve training center, and many light industrial enterprises have been established within the limits affected by these floods.

The flood problem north of the city of San Bernardino is typical of the problem in the entire southern California area where the valley flood has as its perimeter a high mountainous terrain. The slopes in the upper ranges of the tributaries are very steep and the flow of flash floods passes quickly and causes tremendous damage from inundation.

The overflow area of Devil, Waterman, and East Twin Creeks from the base of the San Bernardino Mountains to the overflow area of Warm Creek and the overflow area of Warm Creek to the junction of East Branch of Lytle Creek is estimated at 10,300 acres. At present Devil Canyon discharges upon a step debris cone extending 1½ miles out into the valley north of San Bernardino with a dispersion angle of 60 degrees. A gently sloping plain 1 mile in width extends southeasterly to the easternmost point of the Shandin Hills (Little Mountain).

All drainage from Devil Canyon now, upon rounding this hill, discharges uncontrolled upon the north end residential area and business ditsrict between Sierra Way and I Street.

This area comprises the major portion of population and assessed valutions. The downstream channels have been obliterated by streets, business and residential developments.

The proposed project plans to divert Devil Creek flood flows to Cajon Channel. This would be accomplished by constructing an intercepting levee extending westerly across the existing channel of Devil Creek about 1¼ miles below the apex of the cone (and below the present spreading grounds) to the low range of hills along Kendall Drive, and a concrete channel southwesterly to Cajon Creek within the limits of the Lytle-Cajon Creek Army project.

It has been recognized that this Lytle-Cajon Creek project now completed by the United States Engineer Department was designed as an emergency war necessity. It without doubt provides adequate protection for the westerly portion of the City of San Bernardino and for the railroads, highways, and other facilities which were in jeopardy during the recent war.

It has likewise been recognized that certain areas within that project containing water wells for municipal and domestic use and for supply to large agricultural districts of high value are still subject to appreciable damage from floods. The concrete channel from Devil Canyon as proposed would conduct additional floodwater into this territory. These conditions were considered by the Board of Engineers for Rivers and Harbors when this Santa Ana River report was being reviewed and that body in its report to the Chief of Engineers

recommended that an additional levee be built upstream from the "island levee," which is along the right side of Lytle Creek just downstream from the confluence of Lytle and Cajon Creeks, for the protection of the very valuable wells in that location. It is strongly urged that this levee be constructed.

The mouth of Waterman Canyon is located about 4 miles northeast of the central business district of San Bernardino. One-fourth mile to the southeast is the canyon mouth of East Twin Creek. By successive deposition of debris, floodwaters from these two canyons have built a cone extending 4 miles in length to Warm Creek on the south and 3½ miles in width from I Street on the west to Sterling Avenue on the east. The cone is typical of all steep alluvial fans, being a wide angle cone upon which unrestrained floodwaters are at liberty to occupy any position through an angle of 90 degrees for a distance of 2½ miles below the apex. Its apex is forming at the mouth of Waterman Canyon at an elevation of 1,000 feet. The major axis (crown) of the cone extends southwesterly 2 miles toward the most highly developed business and residential district of San Bernardino and facilities heretofore mentioned, then assumes a southerly direction along Waterman Avenue.

From the apex the present course of Waterman Creek continues southwesterly on the crown for 0.2 mile, then swings to the left, assuming a southeasterly course and at a point 0.8 mile from the apex joins present East Twin Creek wash.

The slope of the present Waterman Creek stream bed from the apex (elevation 1,600 feet) for the distance of 0.8 mile to its junction with East Twin Creek (elevation 1,385) is 215 feet (270 feet per mile) as compared to the slope of the major axis from the apex (elevation 1,000 feet) southwest toward San Bernardino for an equal distance of 0.8 mile to a point (elevation 1,355 feet) which is 245 feet or 306 feet per mile.

A comparison of the two gradients augmented by the curve in the stream bed indicates that there is no inducement for the present course to remain permanently stable. It is easily possible that the entire flow could abandon the present course and ride the crest of the cone for miles through entirely new territory.

The Santa Ana River report recommends a plan to revet earth-filled levees constructed by local interests to collect flows from Waterman and East Twin Creeks and to construct a concrete channel along East Twin Creek from the end of those levees to and crossing Warm Creek and thence southwesterly to a point near Warm Creek south of San Bernardino.

The San Bernardino County flood control district engineering department has examined the proposed improvements and recommends them as adequate for the purpose.

Watershed data	Devil Canyon	Waterman	East Twin
Maximum discharge, 1919–49.....cubic feet per second	3,320	2,350	3,360
Date, 4 p. m.	Mar. 2, 1938	Mar. 2, 1938	Mar. 2, 1938
Mountain drainage area.....square miles	6.3	4.55	8.6
Minimum altitude.....feet	1,800	1,600	1,650
Maximum altitude.....do	5,350	5,400	6,150
Average altitude.....do	3,560	3,620	3,520
Average slope.....percent	42	50	47
Length main-stream channel.....miles	4.5	4.5	4.8
Average slope stream channel.....percent	13	14	18
Rainfall March 1938 storm total:			
Base of mountain.....inches	12	12	12
Mountain crest.....do	24	24	26
73-year mean, base of mountain.....do	25	23	23
73-year mean, mountain crest.....do	40	40	45

Excessive precipitation recorded at Squirrel Inn, elevation 5, 300 feet (in East Twin Creek watershed)

Storm	Maximum 24 hours		Maximum 48 hours		Storm total
	Inches	Date	Inches	Date	
Jan. 14–20, 1916	16.81	17	22.61	17–18	27.77
Feb. 27 to Mar. 4, 1938	10.97	2	15.67	2–3	26.17
Jan. 21–24, 1943	10.40	23	16.85	22–23	17.95

Warm Creek below East Twin Creek confluence, peak discharges 1884 to 1949

Flood No.	Estimated peak discharge (cubic feet per second)	Date
1	6,700	Mar. 2, 1938
2	6,400	Feb. 23, 1891
3	4,700	Jan. 18, 1916
4	3,600	Mar. 6, 1884
5	2,900	Feb. 17, 1884
6	2,300	Feb. 21, 1914
7	2,100	Jan. 23, 1943

The areas which are exposed to flood hazard from these various streams are probably developing as fast as any in the entire Nation, not only for civilian use, but also for military operations. We know that the threat from flood is extremely serious. Therefore, our very sincere request is that this committee give full consideration to the recommendations contained in the report on survey of Santa Ana River and tributaries, California, to the end that an appropriation may be made this year so that the project may be constructed in an orderly fashion and its completion accomplished at an early date.

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT,
San Bernardino, Calif., March 1, 1951.

The Board of Supervisors of the San Bernardino County Flood Control District hereby expresses the appreciation of the people of the county and of the State of California for the fine interest and accomplishments made by the various committees and by the Congress of the United States as regards the San Antonio Dam and channel projects.

These projects were authorized by the Seventy-fifth Congress, third session, Document No. 688 (Flood Control Act approved June 22, 1936, and as amended August 28, 1937), and subsequently the sum of $500,000 was appropriated to begin construction of the dam.

Realizing that there have been changes in the membership of congressional committees, and to emphasize the urgent need for further appropriations in order that an orderly construction program may continue, the statement attached is hereby submitted.

We call to your attention the fact that this project has received Presidential approval as a war emergency measure.

It is the sincere hope of this board that approval will be given for an appropriation of at least $2,250,000 for construction work on the dam and $500,000 for construction work on the channel during the ensuing year.

BOARD OF SUPERVISORS,
SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT.

SAN ANTONIO DAM AND CHANNEL PROJECT

The Board of Supervisors of the San Bernardino County Flood Control District, which is a county-wide district organized under the provisions of chapter 929, Statutes of 1945, a special act of the Legislature of the State of California, urges that additional money be made available for the continued construction of the San Antonio Dam and flood-control project, which project has been authorized and which is the subject of reports heretofore presented to Congress by the Corps of Engineers.

Those reports are favorable to the project and set out in considerable detail its necessity, its economic justification, and the urgency of the work which is proposed. They are available and familiar to you, so detailed repetition by us is thought not to be necessary.

We do, however, wish to emphasize certain matters, and to call your attention to ones possibly not directly dealt upon in other reports.

The mountain drainage area tributary to the proposed dam is about 27 square miles. That area, because of topographic features and relation to desert and ocean influences, is subject to intense rainfalls and cloudbursts. The average yearly rainfall varies from about 22 inches at the dam to 40 or 50 in higher regions. During storms of great intensity, rainfalls of as much as 16 to 18 inches per 24 hours have been recorded.

USGS Water Supply Paper 847 at page 261 shows San Antonio Creek as producing the highest run-off rate per square mile of all United States of America streams listed in said table.

The elevations within the watershed vary from approximately 2,100 feet at the dam to as much as 10,000 feet, and San Antonio Canyon itself has a fall of between 700 and 800 feet per mile. This canyon empties upon a large unstable fan-shaped debris cone of rather recent origin, and the stream as it leaves the canyon mouth can, under present conditions, range through an angle of more than 90°.

The stream at floodtime with a comparatively small changing of conditions can leave its poorly defined channel bed and continue in any direction over this 90° width. The slope of the cone is from 3 to 6 percent.

Almoste unlimited amounts of detritus are in the great moraine like moving rock and gravel slides in the upper canyon reaches.

It is this combination of steep slopes, intense rainfall and run-off and unlimited masses of loose materials being transported onto this unstable debris cone that made the situation so menacing and dangerous.

There are six cities and several smaller communities, together with a closely built up urban development of homes and citrus orchards immediately within the easily possible course of this rock and gravel laden stream. Three transcontinental railroads, an interurban electric line, three interstate, cross-country State highways, and innumerable county highways and city streets cross and traverse this threatened area.

As is true in all of southern California, settlement and development have been rapid in this vicinity during the past several years. This location is about midway between the cities of Los Angeles and San Bernardino and about 25 miles from each. Within a very few years this entire distance will be closely built up and densely inhabited. The cities immediately involved are Upland, Ontario, Chino, Claremont, Pomona, and LaVerne.

The increase in assessed valuation of a part of the area in San Bernardino County is as follows:

Assessed valuation

	1938–39	1949–50	1950–51
Ontario City	$8,776,220	$16,785,010	$17,950,010
Upland City	5,248,280	8,221,990	8,286,430
Chino City	1,612,470	4,598,920	4,641,110
Ontario outside (west of Euclid)	1,555,100	2,369,010	3,785,340
Upland outside (west of Euclid)	469,287	806,439	----------
Chino outside (west of Euclid)	1,249,550	2,373,000	----------

The water from the San Antonio watershed is that which is largely necessary for the support of these cities and for the support of extremely valuable citrus districts, and also for the replenishment of several underground basins from which much of the water supply of the area is obtained. The overdraft in that portion of the Chino underground basin dependent upon San Antonio Creek is not from four to five thousand acre-feet per year.

Several hundred thousand dollars of local money have been spent in the construction of conservation works and spreading grounds, but the saving of water in time of large floods is feasible only by detention storage and debris removal, both of which the proposed dam will provide in satisfactory form.

Damaging floods have occurred on this stream in the years 1906, 1909, 1914, 1916, 1922, 1927, 1938, and 1943. Certain statistical data taken from one of the preliminary examinations reports having to do with damage from these floods is attached hereto.

We honestly and sincerely believe that a very serious flood hazard exists below the canyon portion of San Antonio Creek, and that the situation is so critical that every possible effort that can be made to the end that the stream be con-

trolled and confined by regulation and channel improvement will be amply justified.

Population statistics

	1940	1950
San Bernardino County	161,108	[1] 289,800
Increase 80 percent:		
Ontario	16,044	25,594
Upland	7,118	10,174
Chino	7,483	8,654
West End area: Pomona, Claremont, Chino, Ontario, Upland	95,655	150,000

[1] Estimate by California Taxpayer's Association.

San Bernardino County has experienced one of the largest increases of population in the State and Nation.

Population increase from 1940 to 1950: [1]

	Percent
State of California	43
Los Angeles County	34
Orange County	32
Riverside County	31
San Bernardino County	80

[1] Estimates based on calculations by the California Taxpayers' Association, the San Bernardino County Election Department, and the San Bernardino County Chamber of Commerce.

SAN ANTONIO CREEK—DAMAGES FROM FLOODS

(From statistical data in preliminary examination report on Santa Ana River and tributaries dated February 15, 1939)

In Ontario, Euclid Avenue was a raging torrent and side streets were full from curb to curb. West F Street was bady washed at Laurel Avenue; San Antonio Avenue also suffered, as did Vine Avenue. Most of the streets sustained minor damages. At A Street, storm waters were turned into the new catch basin and into the old storm drain, relieving the flood at A Street and Euclid Avenue (January 26, 1914). On Fourth Street, the new bridge stood, but there was room for six bridges east of it. The Eighth Street bridge went out (January 27, 1914). On East Ninth Street, Ontario, water 6 feet deep and 60 feet wide came from north of the Pacific Electric Railway tracks onto a tract of land owned by A. P. Moreman. The water went on through Ninth Street and over lots belonging to Arron Brest, then south to the Atchison, Topeka & Santa Fe Railway, flooding homes south of Ninth Street (above was local runoff, not San Antonio Creek).

On Euclid Avenue at Twenty-second and Twenty-third Avenues, great damage was done to groves. The wall was washed away north of the Paul groves and water came down into the orchards. The Ninth Street road was washed out as it had been in January. (February 19, 1914) On the east side of Euclid Avenue, water tore a gulch in a barley field above Twenty-fourth Street cut through the Paine grove to the Stewart grove and flooded that entire section (February 26, 1914) (local runoff).

Upland experienced its greatest rain. Every avenue running north and south was filled from curb to curb. In every section, water tore through stone walls and ditches and washed orange groves. The Upland downtown district suffered little damage, but in the northern part of the city, groves from Twenty-fourth Street south on the west side of Euclid Avenue were badly washed (local runoff).

The city of Ontario was isolated: all connecting roads were washed out in many places. The Southern Pacific Railroad lost sections of track at Etiwanda. East of Etiwanda floodwaters cut off Ontario from Colton, Riverside and San Bernardino near the plant of the Southern California Canning Co. on East State Street. Between Upland and San Bernardino the tracks were soft and all trains were annulled. The new line of the Pacific Electric Railway to San Bernardino was washed out in several places. Floodwater went through recently completed fills, leaving rails and ties dangling high. The auto road also suffered.

Foothill and Valley Boulevards were a mass of ravines and gullies in spots were the water concentrated in flood strength (local runoff).

About 150 feet of flume washed out in the San Antonio Canyon, and the local (Ontario) water supply became muddy. San Antonio Creek was a raging torrent that swept everything before it. Its floodwaters reached to the Chino foothills. It was estimated that the stream flowed 140,000 miner's inches most of the night of January 26. In the hills back of Stoddard's Canyon the rainfall was great, adding to the flood in San Antonio Canyon. San Antonio Creek tore out the 10th Street bridge and the Southern Pacific Railroad bridge south of A Street, nine miles from the mouth of the canyon (January 27, 1914).

In the Ontario-Upland area, rainfall for the season totaled 22.47 inches. In the northern part of Ontario, groves from 24th Street south on the west side of Euclid Avenue were badly washed. A cloudburst in San Antonio Canyon was the principal cause, and as usual in cases of this sort, a California river found a new river bed with damage to orange groves and valuable property, gutted by the stream (January 29, 1914).

Flood year 1916

San Antonio Creek had become a river, washing out its bridges (January 17, 1916). Damage in Pomona district was estimated at $5,000,000. More than 200 passengers were held up on east bound trains at Pomona. Twenty-five tourists were marooned at Camp Baldy where rain came down at the rate of one inch per hour, sending destructive floods to the valley lands below. A portion of the new state highway was washed out in the Pomona district. At Claremont dynamite was used to divert floodwaters into the old channel of San Antonio wash to save Pomona College buildings from destruction. A number of orange groves were damaged by the flood, and ranch houses stood in 3 feet of water (January 18, 1916). The cloudburst caused waters to sweep out of San Antonio Wash and cut across the country to the Claremont School for boys, which was surrounded.

Flood year 1921

San Antonio Canyon was wrecked. Water came from the canyon down San Antonio Avenue, damaging streets and washing groves badly. The Eleventh Street bridge was washed out and wash-outs of the Pacific Electric Railway and the Atchison, Topeka & Santa Fe Railway kept those railways out of operation (February 26, 1922).

Flood year 1926–27

In San Antonio Canyon a heavy rain had fallen for 48 hours, and the creek rose rapidly at Ice House Canyon. Kelly's Camp was buried in 10 feet of snow, and it was expected that the rain would melt the heavy snows and augment the flood in San Antonio Creek (February 15, 1927).

Flood year 1937–38

According to the United States Weather Bureau, the storm of February 27–March 3, 1938, originated in the north Pacific Ocean west of Alaska, February 24, 1938, and traveled southeasterly, following the coast of Canada and the United States, reaching its greatest intensity in southwestern United States in southern California, southern Arizona, and southwestern New Mexico.

In southern California, the precipitation occurred during the period February 27–March 3, 1938, and reached its highest intensity during the seven-hour period from 3 a. m. to 10 a. m. on March 2. During the period, 3.8 inches of rain were recorded in Los Angeles, or at an average rate of 0.54 inch for the 7 hours. In the mountain areas, a greater rainfall intensity occurred during about the same seven-hour period, and this caused maximum flood crests in the streams of southern California.

The storm caused great damage in southern California, southern Nevada, and parts of Arizona. A large number of homes were completely destroyed or badly damaged. Railroads and highways suffered damage estimated at many millions of dollars, due to the destruction of bridges and roadbeds. Other facilities, such as telegraph, telephone, gas, and water were severely damaged. For a time, all lines of communication were cut off from some localities, except those served by airplanes and by radio. In the Los Angeles engineer district, the loss of life from the storm is estimated at 87 and in addition 9 persons were reported missing 3 months after the flood.

COMMITTEE TRIBUTE TO COL. W. E. POTTER, CORPS OF ENGINEERS

Chairman McKellar. The Chair is informed that today is Colonel Potter's last day on duty in his present job, that he goes on leave tomorrow, and that in August, he goes to a class at the National War College here in Washington.

I want to say that, in my judgment, while we all know that the Corps of Engineers and those under them do a great work at all times, Colonel Potter has done, in my opinion, an outstanding job in his position. It is certainly astounding to me the mass of detailed information that he has been able to give this committee.

I have heard him before, but it seems to me now, since these hearings, that he has shown as great a knowledge of this country, insofar as rivers and harbors and the like are concerned, as any man I know. It did not make any difference whether it was in California or Kansas or Mississippi or Montana, or any——

Senator Ecton. Yes; he knows all about Montana, too.

Chairman McKellar. He knows all about Montana, West Virginia, or Pennsylvania. It is a remarkable knowledge, and I want to take this opportunity of wishing him well. I think that, in my judgment, he is one of the best officers that we have in the service. I wish him the best of everything.

Senator Knowland. Mr. Chairman, as one of the minority members of the committee, and the senior minority member present here today, I want to fully concur in everything that the chairman has said.

I want to also add that though we do, under our normal form of government, have majority and minority members, this committee has always functioned in a nonpartisan spirit, attempting to meet the problems of the Nation, regardless of the area of the country.

I fully agree with the chairman that Colonel Potter has done an outstanding job. We all wish him well, and I am particularly honored that the last day on this particular job should have been spent at the California hearings.

Senator Stennis. Mr. Chairman, I certainly want to join with the Senators here with reference to Colonel Potter and his splendid work and his great service to the committee and the Nation. We certainly wish him well, as you say, as he goes to another mission.

Senator Ecton. Mr. Chairman, I know every member of this committee feels very grateful to you, Colonel Potter, for your assistance and aid to all of the members of this committee, and also the citizens from these various States who have come here to testify. I join the rest of you in wishing the very best of good fortune to Colonel Potter in his new assignment.

Colonel Potter. Mr. Chairman, may I say just two or three words?

Chairman McKellar. You may.

Colonel Potter. One is that I am sorry that it isn't given to all of the citizens of our country to see democracy in action as I see it every day in listening to this committee and the other committees before which I appear. I believe that did our citizens have the capability of hearing this august body at work, they would have a greater opportunity to know the problems that you study and solve for the good of the country.

With regard to my ability, sir, it is here in the persons of my staff. These gentlemen are the gentlemen who see that all the information you require is available.

STATEMENT OF MAYOR JOHN D. BUTLER, OF THE CITY OF SAN DIEGO, CALIF.

SAN DIEGO RIVER AND MISSION BAY PROJECT, CALIFORNIA

Senator KNOWLAND. I think, Mr. Chairman, Mr. Leedon has a statement to present before we close the hearing.

Mr. LEEDON. Mr. Chairman, I have a statement from John D. Butler, mayor of the city of San Diego. They were unable to have anyone present, and they asked me if I would please introduce this statement in the record for them. It is with regard to the San Diego River and Mission Bay project.

Chairman MCKELLAR. Without objection, it may be inserted in the record.

(The statement referred to is as follows:)

STATEMENT OF MAYOR JOHN D. BUTLER, CITY OF SAN DIEGO

The San Diego River and Mission Bay project was authorized in 1946 as a multiple purpose project for flood control on the lower reaches of the San Diego River and improvement of Mission Bay for small-boat navigation.

From the outset this project has involved substantial contributions by the city of San Diego and the State of California. The latest available estimated total cost (1949) is $24,594,000. Of this amount the Federal contribution is estimated at $10,300,000, or approximately 42 percent, whereas the local cost will be $14,294,000, or 58 percent.

The Federal portion of the project consists of the following items:

(1) Construction of a flood channel 800 feet wide and 3.3 miles in length having a capacity of 115,000 cubic feet per second.

(2) Alteration of the railroad bridge over the flood-control channel.

(3) Dredging of a new entrance channel 20 feet deep into Mission Bay.

(4) Dredging in the bay a main channel, turning basin, and two anchorage basins, all to a depth of 20 feet.

(5) Construction of three jetties at the entrance and stone revetment for dredged slopes of the entrance channel, main channel and turning basin.

The local cooperation specified in the project document provides for:

(1) Necessary bulkheading.

(2) Procurement of all lands and rights of way including spoil-disposal area.

(3) Replacement or reconstruction of highway bridges.

(4) Relocation of all utility lines and side drainage structures.

(5) Acquisition and proper dedication of all lands between the flood control channel and Mission Bay west of Highway US 101.

(6) Preparation of definite plans and construction schedules for improvement of the bay area for park purposes, subject to approval of the Secretary of the Army.

(7) Completion of the balance of dredging of the bay.

(8) Provide facilities for storage, maintenance, and supply of small craft.

(9) Maintain and operate the entire project with the exception of the jetties and stone revetment constructed by the United States.

(10) Protect the carrying capacity of the flood-control channel from future encroachments or obstructions.

(11) Hold and save United States free from damages due to construction work.

Federal appropriations to date total $5,600,000. City of San Diego funds expended to date and obligated by contract amount to approximately $5,200,000, including $2,000,000 in bond funds voted by the people of San Diego in June of 1950. The State of California has appropriated nearly $2,000,000 for this project. In additon, the city of San Diego will spend approximately $700,000 on approaches to the new highway bridges in the next fiscal year and the State of California has included an additional sum of $964,000 in the 1952 State

budget. Thus the total of city and State funds expended on this project will amount to $8,800,000 by the end of the next fiscal year.

Excellent progress has been made to date on this project.

We fully realize that it will be necessary, because of the international situation, to defer our plans for early completion of the entire project. There are, however, two extremely important items that must be completed before we shut down the project for the duration of the present emergency.

First is the completion of the upper portion of the flood channel for which item $510,000 has been approved by the House Appropriations Committee in the 1952 Army civil functions appropriations bill. This amount will fully complete the Federal portion of the flood-control phase of the project. Local funds are available and have already been committed by construction contracts to complete the remaining bridges and relocation of utility lines.

It would seem most illogical to fail to fullly complete the flood channel at this time after some $11,000,000 have been expended by the Federal Government and local interests downstream from the upper end of the flood channel.

The second item which the people of the city of San Diego feel to be equally important is of a quite different nature. Prior to completion of the north levee of the flood channel which closed the mouth of Mission Bay, it was necessary to dredge a new entrance into the bay. A pilot channel 300 feet wide, dredged to a depth of 8 feet was completed by the United States Engineers and opened to public use about 1 year ago. It was fully expected at that time that it would be possible to include in the next Federal appropriation, funds for completion of the 20-foot dredging throughout the project, including the entrance channel, turning basins and two anchorage basins. We now realize that it is not feasible to proceed with this full program. We do wish, however, to emphasize the urgent need for completion of the dredging of entrance channel to its full depth of 20 feet and width of 700 feet.

We are faced with a most difficult problem because of the extremely hazardous condition of this temporary channel. The sand banks adjacent to the pilot channel have eroded and sloughed into the channel with the result that we now have only 3 to 4 feet of water at some points at times of low tide. The most dangerous situation arises at the time of ebb tides when there is a rough sea outside the channel. Ground swells and normal waves become tremendous breakers within the channel making it extremely hazardous to small craft.

The city of San Diego has attempted to meet this problem by establishing a new lifeguard station on the channel. We have purchased and manned a new rescue boat. We have repeatedly refused passage to small boats when the channel was rough or was expected to become dangerous during the day. In spite of these precautions, 29 boats have been overturned or swamped and 18 boats in distress have been towed to safety during the past year. Our lifeguards have rescued 104 persons during this period but in spite of their efforts three people have lost their lives.

I am sure that you can recognize the gravity of this situation and the rather helpless situation in which local officials are placed. The only workable solution to this problem appears to be the completion of the 20-foot dredging within the entrance channel.

If this hazardous condition existed at all times, there would, of course, be a relatively simple temporary solution. We could close the channel to all traffic. Fortunately, or perhaps unfortunately, this hazardous condition does not exist at all times. There are many days when small boats can traverse the channel with complete safety. The problem is particularly complicated by the fact that it is impossible to predict in advance when the particular combination of tide, wind, and wave action will result in extremely rough water in the channel. For example, on any morning we may have an apparently calm day and a large number of small craft will desire to proceed out of the bay for fishing or short excursions along the coast. By midafternoon when these boats are returning the channel may be in such condition that the occupants of these boats are placed in extreme danger.

We feel that we have done everything within our power at a local level to cope with this problem. We are convinced that until the channel is dredged to its full depth, we may expect to read any morning of another fatality due to the temporary nature of the existing channel.

We earnestly solicit your careful consideration of this problem and strongly urge that the appropriation for the Mission Bay project be increased by the amount of $690,000 to a total of $1,200,000. If this is done the project can be

logically and safely brought to a halt until world conditions will permit resumption of normal activities.

Mr. GRIFFITH. I want to thank the committee for your courtesy and for the manner in which you have conducted this hearing.

Senator STENNIS. I want to commend these gentlemen for the very fine way in which they have presented their case. They were brief, they were clear and to the point. I want to especially commend Senator Knowland for the way he planned the presentation of it. He did not take up all of the time himself, and it has been very helpful to the committee.

I am pleased with your presentation, Senator Knowland, and that of these gentlemen.

REQUESTED RESTORATIONS ON RIVERS AND HARBORS AND FLOOD CONTROL PROJECTS

Senator KNOWLAND. I might say, as Colonel Potter said, that they deserve all of the credit for the presentation; they worked it out. I cooperated, as I try to do, with the California delegations, in making their presentations. The presentation is theirs.

(Justification for restoration sheets for the projects discussed are as follows:

JUSTIFICATION FOR RESTORATION

Niagara Power Development

Approved budget estimate	$2,000,000
Amount allowed by House	----------
Restoration requested	----------
Total	2,000,000

The funds requested will provide for engineering and economic investigations of the power redevelopment possibilities at Niagara Falls pursuant to authority contained in a Senate Public Works Committee resolution.

At the request of the International Joint Commission, the Corps of Engineers is now engaged in investigations and studies of the nature and scope of remedial works necessary to preserve the beauty of Niagara Falls under conditions expected to prevail when the Niagara River is more fully utilized for power purposes pursuant to the recent treaty. The study of the power features must be fully integrated with the study of the remedial measures and with the proposals of the Province of Ontario for the development of the Canadian power plants.

The prospective redevelopment of the Falls will increase the total dependable generating capacity on the United States side of the Falls from an existing 440,000 kilowatts to 1,572,000 kilowatts and will provide low-cost power in a highly developed power-short industrial area.

It should be noted that the original 1909–10 treaty and subsequent notes provided for a greater portion of water to Canada for power than to the United States. A large portion of the Canadian power was exported over to the United States side. The new treaty, however, provides for an equal distribution of water to each Government, but pending the completion of the American redevelopment the Canadian Government can use the unused portion of the American allocation of water for power.

The province of Ontario is proceeding with the construction of its additional power facilities at Niagara made possible by the new treaty.

Full restoration of the budget estimate for the engineering and economic investigation of the redevelopment of the Niagara Falls on the United States side is requested in order that these studies may keep pace with the study of remedial measures which of necessity must proceed concurrently, since they are so closely interrelated.

Item No. 4. Cherry Valley Reservoir, Calif.

Total estimated Federal cost	$8,000,000
Allotments to date	1,630,900
Additional to complete	6,369,100
Approved budget estimate	3,500,000
Amount allowed by House	3,300,000
Restoration requested	200,000

EFFECT OF REDUCTION

The Cherry Valley project is a joint venture between the United States and the city and county of San Francisco and the Turlock and Modesto irrigation districts whereby the Federal Government agrees to pay a part of the project cost in exchange for the flood-control services to be rendered by the project. The project is being constructed by local interests. The construction schedule for fiscal year 1952 calls for an expenditure of $7,050,000, including a Federal contribution of $3,500,000. This figure represents the minimum amount necessary to maintain a logical and economical construction sequence. A reduction in funds would disrupt not only this construction sequence, but also the financial arrangements made by local interests, and would cause a consequent delay in the completion of the project, which is intended to provide not only flood control but also new water for irrigation, domestic and industrial uses, and for the generation of hydroelectric power in downstream power plants. During the floods of November and December 1950, the waters of the Tuolumne River inundated approximately 8,000 acres of urban and agricultural land along the Tuolumne River proper. In addition they contributed very heavily to the inundation of 44,000 acres of agricultural land along the San Joaquin River. The total damage caused by this flood along the Tuolumne River itself has been estimated at $650,000. The damage along the San Joaquin River in combination with the waters of the other tributary streams amounted to $4,643,000. If this project had been completed and in operation at the time of the flood, the damage along the Tuolumne River would have been reduced by about two-thirds, and the damage along the San Joaquin River would have been very substantially reduced.

Restoration of $200,000 in funds is required principally to fulfill the commitments made to local interests, to maintain an orderly construction schedule, and to prevent a delay in the completion of the project with a consequent detrimental effect not only on flood control but also on irrigation, municipal and industrial water supplies, and on the generation of hydroelectric energy in downstream power plants.

Item No. 5. Farmington Reservoir, Calif.

Total estimated Federal cost	$3,729,000
Allotments to date	3,515,000
Additional to complete	214,000
Approved budget estimate	214,000
Amount allowed by House	----------
Restoration requested	214,000

EFFECT OF REDUCTION

Item 2. Lands and improvements

The $174,000 allocated is for the acquisition of lands now under condemnation, the actual cost of which must await the results of court proceedings. Also included in this item is the construction of a small channel from Littlejohn Creek to Rock Creek upstream of the dam. This channel is necessary because the main outlet of the dam is on Rock Creek, and since the reservoir lands are acquired by flowage easements facilities must be provided to permit dewatering of lands immediately after a flood. The need for this drainage channel was confirmed beyond a doubt by the November–December 1950 floods.

Item 6. Reservoir clearing

The $40,000 for reservoir clearing was to be utilized for clearing stream channels upstream from the dam in order to prevent debris from clogging the dam outlet works.

Elimination of these items of work would very seriously impair the functioning of the project.

JUSTIFICATION FOR RESTORATION

During the November–December 1950 floods the Farmington Dam itself was already completed but flowage easements in the reservoir area had not been obtained. Therefore, it was necessary to keep the Farmington outlets entirely open during the flood in order to prevent the inundation of reservoir land for which flowage easements had not been obtained. This operation resulted in the prevention of only about 50 percent of the damage that would have occurred under natural conditions. If the reservoir lands had been obtained the entire damage could have been prevented.

Restoration of funds is necessary in order to prevent a project which is otherwise practically complete from operating at 50 percent efficiency.

JUSTIFICATION FOR RESTORATION—FLOOD CONTROL, GENERAL

Item No. 6. Folsom Reservoir, Calif.

Total estimated Federal cost	$50,792,000
Allotments to date	9,082,000
Additional to complete	41,710,000
Approved budget estimate	6,985,000
Amount allowed by House	5,000,000
Restoration requested	1,985,000

EFFECT OF REDUCTION

Item 3. Main dam and appurtenance and Mormon Island auxiliary dam and dikes

This item would be reduced by $1,985,000. This reduction would result in a decreased allocation for the main dam and appurtenances continuing contract, involving an estimated $30 million, which is to be advertised in July 1951 and awarded as soon as fiscal year 1952 funds are made available. The contract involves complicated construction problems in order to keep the work on the reservoir project in step with the construction progress by the Bureau of Reclamation on the power facilities. A substantial amount of funds are required for contract payments in fiscal year 1952 to insure that correlation mentioned above and in order that a fair and reasonable contract price is obtained on the proposed $30 million continuing contract. The construction schedule provides for contract payments in fiscal year 1952 which include expensive mobilization charges, cost of earth-fill wing dams and dike construction, and preparation of the stream channel for concrete operations during the summer of 1952. A shortage of funds for work scheduled during the latter part of fiscal year 1952 would delay important concreting operations in the stream channel and would result in a 1-year delay in project completion.

The delay in operations under the main dam contract during fiscal year 1952 would prevent the contractor from accomplishing the work scheduled during the first diversion season (summer of 1952) and would delay completion of the over-all project by 1 year. Furthermore, it would delay closure of the stream channel by 1 year thereby resulting in a postponement of partial flood protection now proposed for the flood season of 1953. Complete flood protection as proposed upon completion of the project would be delayed to the same extent. This delay in the construction of the over-all project would also postpone delivery of power and irrigation and municipal water supplies by 1 year.

JUSTIFICATION FOR RESTORATION

Restoration of the proposed reduction of $1,985,000 is required to insure adequate funds for contract payments in fiscal year 1952 so that the present construction schedule, involving a rigid sequence of major construction problems, would not be disrupted. The delay in completion of this project would postpone flood-control, power, and irrigation accomplishments by 1 year. The loss of flood-control benefits during this year on an average annual basis would be approximately $1,000,000. A repetition of the recent 1950 floods under present conditions would cause direct damages of over $3,000,000 in the American River flooded area alone while a repetition of the 1862 flood would cause damages in the order of $25,000,000 most of which would occur in the city of Sacramento and adjacent metropolitan areas having a combined population of some 200,000 residents. The Sacramento Signal Depot, Mather Air Base, and McClellan Air Depot, all vital military installations, are located in the Sacramento area and

are dependent upon the completion of the Folsom project for unimpaired transportation to and between these installations during a major flood. In addition large acreages of lands along the Sacramento River below its junction with the American River would be affected by the postponement. The power facilities of the Folsom project, authorized for construction by the United States Bureau of Reclamation, will upon completion have an average annual output estimated at about 500,000,000 kilowatt-hours. The loss in power production resulting from a 1-year delay in construction of the over-all project would, on the basis of 7 mills per kilowatt-hour, amount to $3,500,000. The loss in irrigation and water-supply benefits would amount to some $1,500,000 during this period. The total effect of flood-control, power, and water-supply accomplishments of the project, on an average annual basis, would amount to a loss of about $6,000,000. This estimated loss is several times the proposed reduction in funds.

Item No. 7—Isabella Reservoir, Calif.

Total estimated Federal cost	$19,050,000
Allotments to date	9,263,000
Additional to complete	9,787,000
Approved budget estimates	4,975,000
Amount allowed by House	4,500,000
Restoration requested	475,000

EFFECT OF REDUCTION

Reduction in the amount allocated would result in delaying the award of the main dam contract until the spring of 1952 instead of the fall of 1951 as planned, as this is a proposed $5,000,000 continuing contract and the reduced allocation would defray contract expenditures for only about a 4-month period. Plans and specifications for this contract are complete and ready for advertising. The orderly scheduling of this contract work provides for construction of the Borel outlet works during the first year of the contract and completing the earth-fill main dam and auxiliary dam the following year. Delay of the start of work on the Borel outlet works until the spring of 1952 would not permit the start of earth-fill operations in the summer of 1952. Although an all-year construction season exists at Isabella, it is necessary to initiate closure of the main stream channel during the summer months of low run-off in order to avoid interference from high stream flows and in order to allow the contractor sufficient time to complete the embankment sections prior to the flood season. The reduction in funds would therefore delay the start of earth-fill operations from the summer of 1952 to the summer of 1953.

The project is now scheduled for completion in the winter of 1953; the delay would postpone the scheduled completion date to the winter of 1954. The date at which all project benefits would begin to accrue would be postponed by this 1-year period. These benefits include flood control, conservation, and improvement in power output for downstream power plants.

JUSTIFICATION FOR RESTORATION

The Isabella project is designed to provide flood protection to about 350,000 acres of agriculture land, oil fields, and urban and suburban areas along Kern River and distributaries; and in conjunction with the authorized Pine Flat, Terminus, and Success projects, to an additional 260,000 acres of agricultural land in the Tulare Lake area. Delay in completion of the Isabella project would cause the loss of conservation and power benefits for the period of delay and would expose this large and important area to the risk of a disastrous flood which could occur during the delay period.

The $475,000 reduction in funds should be restored in order to provide at the earliest practicable date the flood protection, conservation, and power benefits for which the project is designed. These benefits are estimated to amount to an average of $1,605,000 per year. Had the project been in operation prior to the floods of November-December 1950, it would have prevented flood damages in excess of $2,000,000. The area protected from flooding includes facilities important to the national economy, such as oil fields and extensive cotton- and grain-producing areas in the Kern River area and Tulare Lake. The city of Bakersfield is subject to flooding from Kern River. Water conserved by the Isabella project would be used for production of food and fiber in the important Kern County agricultural area. Improvement of power production by the Isa-

bella project is a relatively small benefit compared to the other accomplishments of the project, but the production is badly needed in the power-deficit San Joaquin Valley area.

Item No. 8. Los Angeles County drainage area, California (exclusive of Whittier Narrows Reservoir)

Total estimated Federal cost	$301,605,600
Allotments to date	102,606,200
Additional to complete	198,999,400
Approved budget estimate	6,085,000
Amount allowed by House	5,100,000
Restoration requested	985,000

EFFECT OF REDUCTION

Item 7. Los Angeles River, unit No. 5

The reduction proposed deletes initiation of construction on the channel which would make the closure from the upstream end of reach presently under construction at Van Nuys Boulevard to the outlet works of the completed Sepulveda Dam.

Item 12. Los Angeles River channel, Stewart and Gray Road to Pacific Electric Railway bridge, unit No. 2

The allocation would slow down the construction work.

Item 17. Rio Hondo, unit No. 1

Construction of the Southern Pacific Railroad bridge at the upstream end of the channel presently under construction by contract would have to be deferred.

Construction of Los Angeles River channel has been under way for 15 years. The presently approved program of construction provides that the closure would be made between the upstream end of completed work and Sepulveda Dam before the beginning of the flood season in the fall of 1952. The reduction in the allocation would preclude construction of the closure and further delay effective use of the Sepulveda Reservoir. The program of construction for Rio Hondo channel provides that the Southern Pacific Railroad bridge would be constructed immediately upon completion of the channel upstream to that point in November 1951. The reduction in allocation would delay continued construction of the Rio Hondo channel in an orderly and economical manner and would seriously expose the existing railroad crossing to an added flood hazard.

JUSTIFICATION FOR RESTORATION

The restoration of the reduction in allocation would permit continued construction of the project on an orderly and economical schedule. The delay in effecting the closure of the Los Angeles River channel upstream to Sepulveda Dam and the consequent inability to effectively utilize Sepulveda Reservoir subjects to flood damage large areas of residential, commercial, and industrial property, railroads, highways, oil lines, water lines, and other utilities in lower San Fernando Valley. The protection of these facilities is vital to national defense in the metropolitan area of Los Angeles. The construction of an improved channel up to the present Southern Pacific Railroad crossing the Rio Hondo subjects that railroad to the probability of disrution of traffic by comparatively minor floods. The maintenance of this rail traffic to the commercial and industrial areas of Los Angeles is vital to national defense. The whole project for the continued improvement of the Los Angeles River and the Rio Hondo is so tied in with protection and improvement of transportation facilities, railroads, highway and freeway systems now under construction that any retardation of the approved schedule of construction increases the probability of flood damage out of proportion to the economies effected. Delays in construction add to the cost of the Federal projects and obstruct and add to the cost of highway projects under construction by local interests. The rapid growth of the area during the past 15 years has augumented the possibility of serious flood damage more rapidly than construction of flood-control improvements have alleviated the damages, due to the retarded rate at which construction has advanced.

Restoration of the cut made by the House is essential to permit progress on important project units for flood protection to this highly important area.

Item No. 9. Merced County stream group, California

Total estimated Federal cost	$2,700,000
Allotments to date	1,790,000
Additional to complete	910,000
Approved Budget estimate	265,000
Amount allowed by House committee	
Restoration requested	265,000

EFFECT OF REDUCTION

Elimination of $265,000 would result in the postponement of the installation of ranges, thereby making it increasingly more difficult to obtain sedimentation data during operation of the project and would prevent the construction of the diversion channel from Owens Creek to Mariposa Creek and would seriously impair the accomplishments of the Owens Reservoir which has already been completed. This reservoir was designed on the premise that its releases would be conveyed by means of a diversion channel to Mariposa Creek. Therefore serious flood damages would still prevail along Owens Creek unless the diversion channel is constructed.

JUSTIFICATION FOR RESTORATION

The four retarding reservoirs and the two diversion channels of the Merced County stream group project were designed to operate as a unit. While during the 1950 flood the completed portion of the project operated in a remarkably efficient manner, the remaining part should be completed as soon as possible since it is by no means certain that a recurrence of a similar flood would not cause very serious damages to the presently unprotected area. Flood damages during the 1950 flood in the Merced County stream group area have been estimated at $396,000 of which $309,000 would have been prevented if the entire project (now two-thirds completed) had been in operation. It is of interest to note that during the 1950 flood the completed part of the project prevented damages in the amount of $2,500,000 which is practically equal to the total estimated cost of the project and substantially greater than the total cost incurred so far.

The $265,000 reduction in funds should be restored in order to permit the operation of the completed Owens project in the manner that it was intended, and in order to permit the installation of sedimentation ranges which are required to obtain necessary sedimentation data.

Item No. 10. Pine Flat Reservoir, Calif.

Total estimated Federal cost	$51,121,000
Allotments to date	22,165,000
Additional to complete	28,956,000
Approved budget estimate	8,695,000
Amount allowed by House	8,000,000
Restoration requested	695,000

EFFECT OF REDUCTION

Item 3. Dam and appurtenances

The reduction in the amount allocated for this item would require a reduction in the allocation of funds for contract payments on the existing continuing contract for the main dam. Such a reduction would necessitate retarding the present construction rate, resulting in loss of efficiency and a delay in completion of the dam of a few months.

A delay in construction progress on the main dam would cause a similar delay in the date of operational completion of the entire project. Under the present schedule, such date would be postponed from April 1954 to June 1954. This delay would prevent realization of most of the benefits from control of snow-melt floods and most of the conservation benefits for the season of 1954, as the snow-melt runoff on Kings River generally takes place during April to July, inclusive; usually most of the July flow is diverted for irrigation under present conditions. The effect on irrigation and flood-control benefits would, in all probability, be at least twice the $695,000 reduction in construction funds.

The Pine Flat project is designed to provide flood protection to about 80,000 acres of agricultural lands and urban and suburban areas along Kings River and distributaries; and in conjunction with the authorized Terminus, Success,

and Isabella Reservoirs, to an additional 260,000 acres in the Tulare Lake area. The November and December 1950 floods caused damages of over $3,000,000 below Pine Flat Dam site, all of which would have been prevented if Pine Flat Reservoir had been in operation.

Restoration of the $695,000 reduction in funds is needed in order to maintain an efficient rate of construction on the existing main dam continuing contract and to provide at the earliest practicable date the flood-protection and conservation benefits for which the project is designed. These benefits are estimated to average about $5,055,000 per year (exclusive of power benefits, which will not accrue immediately after completion of the dam). More than two-thirds of these benefits result from control of snow-melt runoff. The full budget estimate is needed to obtain benefits from control of the snow-melt runoff in 1954.

Item No. 11. San Antonio Reservoir, Calif.

Total estimated Federal cost	$7,000,000
Allotments to date	790,000
Additional to complete	6,210,000
Approved Budget estimate	1,000,000
Amount allowed by House	500,000
Restoration requested	500,000

EFFECT OF REDUCTION

The reduction of $500,000 in funds made available to San Antonio Reservoir would preclude the beginning of construction of the spillway structure in the fiscal year 1952.

The project is scheduled to be completed in the fiscal year 1954, which corresponds approximately with the probable end of the dry period which California has been experiencing for the last 7 years. Long-time rainfall records indicate the recurrence of wet and dry periods of 10 to 13 years' duration. The effect of the reduction of $500,000 in funds for the fiscal year 1952 would delay completion of the project to the fiscal year 1955.

JUSTIFICATION FOR RESTORATION

The restoration of the reduction would permit continued construction upon an orderly and economical schedule and, subject to future appropriations, would permit the project to be placed in operation in the fiscal year 1954.

Delay in completion of the project to 1955 would subject 23,000 acres of highly improved agricultural property and valuable residential and commercial property, together with many industrial establishments in the cities of Pomona, Claremont, Chino, Ontario, and Upland, and the population of those areas, to the hazard of great monetary damage and loss of life for an additional year. Included in the protected area are three transcontinental rail lines, the important Hoover Dam power transmission line, and several important highways.

The Department of the Navy has stated that the San Antonio project should have a high priority in any program to strengthen the national defense. The President certified the project as essential to the war effort and approved initiation of construction in fiscal year 1951.

It is highly important to provide the flood protection in fiscal year 1954 as scheduled and to permit the necessary progress, the full amount of the budget estimate should be appropriated.

Chairman McKellar. We will recess until tomorrow morning at 10:30. Thank you very much, gentlemen.

(Whereupon, at 4:50 p. m., Thursday, April 19, 1951, the hearing was recessed until 10:30 a. m. Friday, July 20, 1951.)